Yachting

WITH MOTOR AND SAIL

MARCH BOAT-FOR-SALE NUMBER IN WHICH APPEARS AN INFORMATIVE ARTICLE ON HOW TO PICK OUT A BOAT

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MARCH, 1918 25 CENTS

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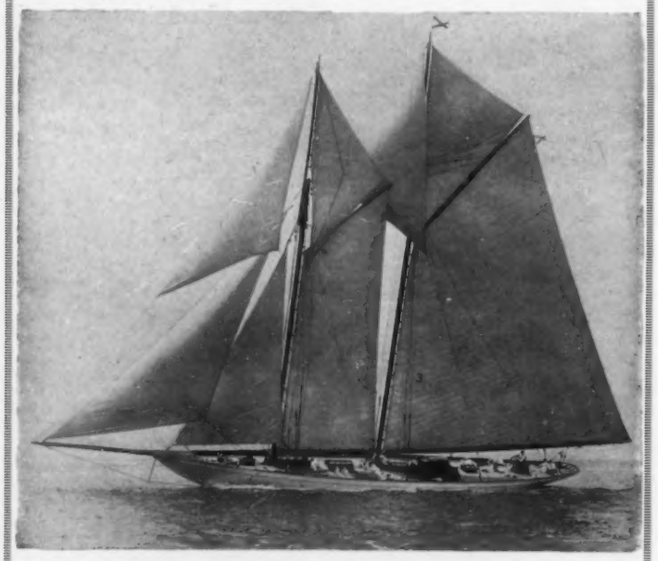

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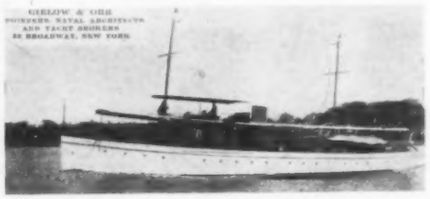
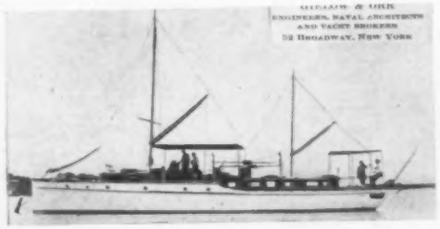
NO. 5905—FOR SALE—High grade 65-foot raised deck cruiser. 20th Century build. Same engine. Built 1917. Mahogany and white interior finish. Three staterooms, bathroom. Gielow & Orr, 52 Broadway, New York City.

NO. 349—FOR SALE—Great Bargain. 130-foot steam yacht, 17 feet 6 inches beam, 6 feet 6 inches draft. Triple expansion engine. Four staterooms, bathroom. Inspection invited. Gielow & Orr, 52 Broadway, New York City.

NO. 4368—FOR SALE—110-foot twin screw steel motor yacht. Located on Lakes. Six staterooms, two bathrooms. Sterling engines. Fine proposition. Gielow & Orr, 52 Broadway, New York City.



NO. 3710—FOR SALE—Exceptionally fine high grade 99-foot twin screw motor yacht. Standard motors. Six staterooms, three bathrooms. Always well taken care of. In fine condition. Gielow & Orr, 52 Broadway, New York City.



NO. 4606—FOR SALE—Heavily built 64-foot motor yacht. Two staterooms, bathroom. White enamel and mahogany trim. In fine condition. Gielow & Orr, 52 Broadway, New York City.

NO. 3002—FOR SALE—Handsome and able auxiliary keel yawl. Trunk cabin and cockpit. 46 feet 5 inches overall, 32 feet waterline, 12 feet 11 inches beam, 5 feet 11 inches draft. Double stateroom, sleeping accommodations for six. Sterling engine. Sails good. Gielow & Orr, 52 Broadway, New York City.

NO. 2733—FOR SALE—Auxiliary keel schooner, trunk cabin, 72 feet overall, 51 feet 3 inches waterline, 16 feet 6 inches beam, 8 feet 6 inches draft. Excellent sea boat. Sails new 1917. Gielow & Orr, 52 Broadway, New York City.

NO. 3747—FOR SALE—Attractive 60-foot raised deck cruiser. Deck dining saloon, owner's private stateroom. Well kept up and in good condition. Located near New York. Gielow & Orr, 52 Broadway, New York City.

NO. 5896—FOR SALE—Exceptionally fine 76-foot twin screw express yacht. Built 1917. Double planked, cedar and mahogany. Mahogany interior finish. Two double staterooms, bath. Van Blerck motors. Located on Lakes. Gielow & Orr, 52 Broadway, New York City.

NO. 5616—FOR SALE—One of the finest 122-foot steel steam yachts offered. New 1910. In excellent shape. Interior finish white and mahogany. Five staterooms, two bathrooms. Well worth investigating. Speed up to 17 miles. Gielow & Orr, 52 Broadway, New York City.

NO. 5489—FOR SALE and CHARTER—72-foot high speed cruiser. Finest construction throughout. Seabury build. Two staterooms, bathroom. Gielow & Orr, 52 Broadway, New York City.

NO. 5065—FOR SALE—Fine appearing 106-foot power yacht. Six-cylinder Standard motor. Speed up to 16 miles. Four staterooms, bathroom. In fine condition. Located near New York. Gielow & Orr, 52 Broadway, New York City.

NO. 2958—FOR SALE—Most attractive 120-foot twin screw express steam yacht. Ideal for fast ferry service. Seabury build. Triple expansion engines. Double stateroom, dining saloon, bathroom. Hull double planked. New boilers 1914. Boat in excellent shape, and can be purchased at attractive figure. Location New York. Gielow & Orr, 52 Broadway, New York City.

NO. 5242—FOR SALE—83-foot off-shore cruiser. Lawley build. Two Murray & Tregurtha motors. Mahogany and butternut finish. Two staterooms, bath. Excellent sea boat. Gielow & Orr, 52 Broadway, New York City.

NO. 5957—FOR SALE—Popular 51-foot raised deck cruiser. Elco build. Sterling engine. Speed up to 14 miles. Private stateroom. Built 1917. Gielow & Orr, 52 Broadway, New York City.

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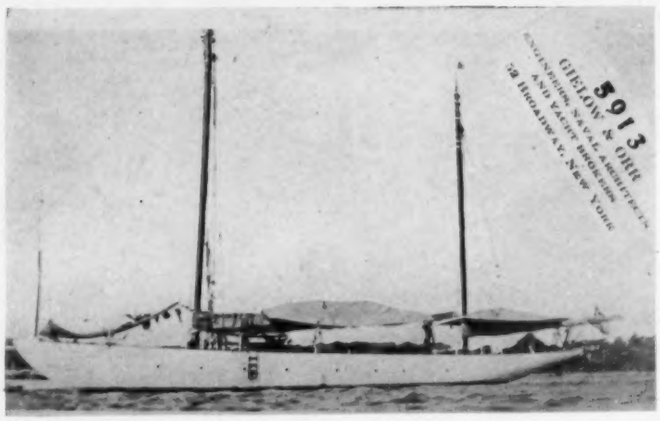
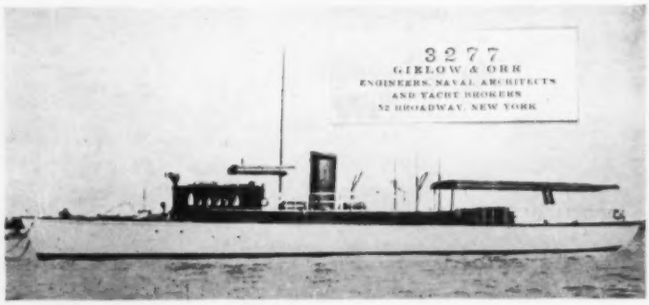
52 BROADWAY NEW YORK

NO. 5913—FOR SALE. A most popular flush deck and cockpit auxiliary centerboard ketch in perfect condition. Length overall 94 feet, waterline 69 feet, beam 20 feet 7 inches, draft 7 feet 9 inches; designed by Crowninshield; built by Lawley in 1915. Extra heavy construction. Interior finish butternut and red mahogany. Four staterooms. Total sleeping accommodations 7 to 9. Equipped with Wolverine motor. Deck, hatches, and companionways of teak. Sails new 1915. Located near New York. Inspection invited. Gielow & Orr, 52 Broadway New York City.



NO. 547—FOR SALE—58 foot auxiliary centreboard yawl. Beam 15 feet 3 inches, draft 4 feet. Trunk cabin and cockpit. White enamel and mahogany trim inside. Sleeps five to seven. Equipped with 18 to 20 horsepower Twentieth Century motor, installed under cockpit floor. Boat in good condition. Owner anxious to sell. Inspection invited. Gielow & Orr, 52 Broadway, New York City.

NO. 2207—FOR SALE—Attractive 51-foot day cruiser; especially suited for afternoon use. Interior finish mahogany. Equipped with Jaeger motor. Boat and engine in good condition. All controls located at wheel. Gielow & Orr, 52 Broadway, New York City.



NO. 3277—FOR SALE—This 92 foot twin screw cruising motor yacht is offered at a great sacrifice. Owner very anxious to sell. Equipped with two 60 horsepower Sterling engines. Owner's accommodations consist of three staterooms, dining and main saloon, and bathroom. Mahogany finish inside. Gielow & Orr, 52 Broadway, New York City.

NO. 5488—FOR SALE—One of the finest twin screw express cruisers available. 64 feet 6 inches by 9 feet by 3 feet 3 inches. Built 1914 of oak and cedar; copper fastened. Equipped with two 6 cylinder 125 horsepower Van Blerck motors. New 1917. Deck of teak, interior finish mahogany. Speed up to 26 miles. Boat in good condition. Gielow & Orr, 52 Broadway, New York City.

NO. 420—FOR SALE—This 61-foot cruising power yacht. Built of oak and cedar. Copper fastened. Interior finish solid mahogany. Craig motor. Owner states no expense spared to keep her in first-class condition. Excellent sea boat. Must be seen to be appreciated. Gielow & Orr, 52 Broadway, New York City.

NO. 5672—FOR SALE—Popular type twin-screw express cruiser 60 feet by 10 feet 6 inches by 3 feet, built in 1917. Two 8 cylinder Sterling motors; speed 18 to 20 miles. Finished inside white enamel, mahogany trim. Sleeps 6 to 6. Excellent boat for fast ferry service and afternoon cruising. Gielow & Orr, 52 Broadway, New York City.

NO. 5088—FOR SALE—This attractive and popular 50 foot raised deck cruiser. Built by Matthews in 1914. Equipped with 6 cylinder 85 horsepower Sterling motor, new in 1916. Is for sale at a very reasonable figure. Has two double staterooms. Finish inside in mahogany and white. Has proved to be an excellent sea boat. Has had good care and attention and is in good condition now. Must be seen to be appreciated. Gielow & Orr, 52 Broadway, New York City.

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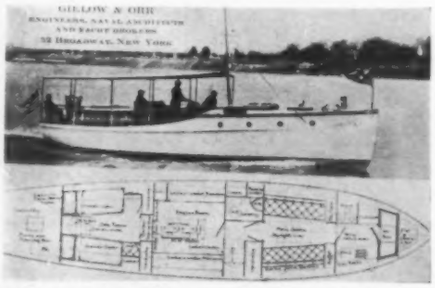
Large List of American and European Yachts of All Types for Sale, Charter or Exchange
Commercial Vessels Insurance
Descriptions and Photos Submitted upon Receipt of Inquiry

NO. 6017—FOR SALE—Most attractive trunk cabin auxiliary yawl, 35 feet overall, 26 feet water line, 12 feet 6 inch beam, 4 foot draft, built by Crosby in 1906. Copper fastened throughout, interior finish mahogany and white enamel. Sails new 1917. 800 square feet sail area. 10 horse power Frisbie motor. Boat in excellent shape. Located near New York. Inspection invited. Can be purchased at reasonable figure. Gielow & Orr, 52 Broadway, New York City, or Chicago Steamboat Exchange, Chicago, Ill.

NO. 2841—FOR SALE—Attractive, well kept up auxiliary centerboard yawl, 35 feet overall, 30-foot waterline, 12-foot beam, 3-foot 8-inch draft. Equipped with 15 horse power Sterling motor, able under sail, sound throughout. Complete in every respect. Near New York. Can be purchased at attractive figure. Gielow & Orr, 52 Broadway, New York City.

NO. 2782—FOR SALE—Attractive 45-foot auxiliary centerboard yawl; trunk cabin and cockpit. Considerable money has been spent in keeping this boat in good condition. Sails and rigging new 1916. New engine installed 1916. Inspection invited. Price attractive. Gielow & Orr, 52 Broadway, New York City.



NO. 5716—FOR SALE—One of the famous 45-foot Elco stock cruisers. Built in 1915. Equipped with Standard motor; electric self-starter; owner's private stateroom. Sleeping accommodations 6 to 8 people. Gielow & Orr, 52 Broadway, New York City.

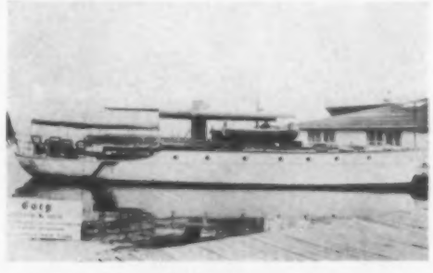
NO. 5312—FOR SALE—Ideal 32-foot raised deck cruiser. Built in 1913. Equipped with 12 to 15 horse power Van Blerck motor. Construction throughout is of the best. Finished inside in mahogany and white enamel. Boat has always been well taken care of. Is in good condition and inspection is invited. Located near New York. Price very attractive. Gielow & Orr, 52 Broadway, New York City.

NO. 3663—FOR SALE—Popular roomy and comfortable 70 foot raised deck motor yacht. Double stateroom. Interior finish in white enamel and mahogany. Equipped with 6 cylinder 75 horsepower gasoline engine. 1914 motor. Has had very good care and attention. Inspection invited. Gielow & Orr, 52 Broadway, New York City.

NO. 4441—FOR SALE—Well built 45-foot raised deck cruiser. Finished white enamel; mahogany trim inside. Sleeping accommodations 4 to 6 people. Sterling engine. Electric self-starter. Boat has been well taken care of and is in good condition now. Can be purchased at attractive figure. Gielow & Orr, 52 Broadway, New York City.

NO. 43—FOR SALE—One of the finest flush deck auxiliary schooner yachts afloat. Has always had excellent care and attention. 95 feet overall, 68 feet waterline, 20 feet 5 inches beam, 10 foot draft. Extra heavy construction. Three staterooms, bathroom. Mahogany interior. New deck laid 1916. New cabin furnishings 1916. Sails in fine condition. Gielow & Orr, 52 Broadway, New York City.

NO. 5519—FOR SALE—Owner is very anxious to sell this extremely attractive 40 foot day cruiser, 8 feet 10 inch beam. Now located in Montreal. Always been well taken care of and is in fine condition. Finished inside in mahogany and white. Built 1911 and rebuilt 1915. Can be purchased at very attractive figure. Inspection and offer invited. Gielow & Orr, 52 Broadway, New York City, or Chicago Steamboat Exchange, Chicago, Illinois.



NO. 6019—FOR SALE—Very attractive 70-foot twin screw motor yacht. Built by Speedway in 1912. Equipped with two 6-cylinder Speedway engines. Boat has been well taken care of. Finished inside in mahogany and white. Completely refurnished with cabin furnishings 1916. Price attractive. Now located on Lakes. Gielow & Orr, 52 Broadway, New York City, or Chicago Steamboat Exchange, Chicago, Ill.

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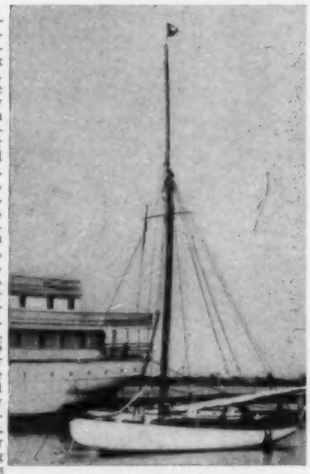
15 EXCHANGE STREET, BOSTON, MASS. TELEPHONE, MAIN 23

FOR SALE.—Auxiliary cruising keel sloop, 55 ft. 11 in. overal, 40 ft. waterline, 14 ft. 6 in. beam, and 7 ft. 6 in. draft. Gross tonnage 20, net 19. Designed by A. Cary Smith and built by C. & R. Poillon at South Brooklyn, N. Y. Equipped with a 15 H. P. 4 cylinder Buffalo motor. Flush deck. 16,000 pounds of inside ballast. Roomy cabin with 6 ft. 2 in. headroom. Two state rooms. Complete cruising equipment. Splendid craft to live on as she is wide and very roomy. May be seen at Marblehead, Mass., by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—Auxiliary Cat with jib. 25 feet overall, 23 feet waterline, 9 feet 8 inches beam, 3 feet 3 inches draft. Very roomy cabin with 6 feet headroom. Sails new in 1916. New mast. 8 H. P. 1912 Lathrop motor. 9-foot watertight cockpit. Complete equipment including tender, two anchors and cables, Shipmate range, cushions, etc. Easy to handle, stiff and able. Bargain to settle an estate. May be seen in Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE. Bargain; able, fast topsail auxiliary cruising sloop. 44.8 x 29.9 x 12.4 x 7.3. Ferris design, Rice Bros. build. Heavy construction, iron keel, cradle, mooring gear, winter cover, water and gasolene tanks, wide bright decks, self-bailing cockpit, mahogany trim, cypress interior. 2 crews berths 4 in cabin, transoms, full headroom, hanging lockers, toilet rooms, lavatory, Shipmate refrigerator, 15 H. P. 2 cylinder motor, folding propeller, 5 H. P. 14 ft. power tender. Large equipment, good condition, easily handled and maintained. Price $1000. Inspectable near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.



FOR SALE.—Auxiliary cruising schooner yacht 95 ft. overall, 68 ft. waterline, 20.5 ft. beam and 10 ft. draught. 65 gross tonnage, 61 net tonnage. Designed by A. Cary Smith and built by C. & R. Poillon at South Brooklyn, N. Y. Very spacious cabin accommodations. 16 ft. saloon full width of yacht with 6.6 ft. headroom finished in mahogany, white enamel and gold. Two double staterooms, one single stateroom. Equipped with a 40 H. P four cylinder 6½x8 Murray & Tregurtha 1916 motor Ratsey sails made in 1912 in perfect condition. 6318 sq. ft. in area. 32 tons of lead on keel and one ton of lead inside. Bathroom, complete electric lighting plant, 1,000 gallon water tanks. Carries 3 mahogany launches and power gig on davits. Player piano, new plumbing with hot and cold running water, pressure system. Easily handled with crew of ten. Has cruised extensively along the Atlantic Coast and through the West Indies. In perfect condition inside and out. May be seen near New York by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—One of the fastest Class P sloops ever built. Designed by William Gardner and constructed in the very best manner by Wood & McClure at City Island, N. Y., in 1914. 55 feet 6 inches overall, 34 feet 9 inches waterline, 11 feet beam, 7 feet 2 inches draft. 10,000 pounds of lead on keel. 9 feet watertight cockpit. Very comfortable cabin with full headroom. Two suits of 1916 sails made by Ratsey & Lapthorne, and Wilson & Silsby, 1350 square feet in area. Beautiful white pine deck. Mahogany trimmings throughout. Mono metal and bronze deck fittings. Hollow spars. Large toilet room. A remarkably fast boat in all kinds of weather and a winner of many prizes. An ideal cruising boat, stiff, able and easy in a heavy sea. Complete equipment including tender. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—32 ft. o. a., auxiliary sloop, 26 ft. waterline, 11 ft. 6 in. beam, 6 ft. 6 in. draught, 9 gross tons; 8 years old; noted "Friendship" model. Trunk cabin with full headroom, built new last Spring. Interior cabin, toilet and galley, mahogany, white enamel and natural cypress finish. Main cabin has spring cushions, leather upholstery, sleeps four, two berths forward of galley. Roomy galley. Shipmate range, Perfection oil-stove, refrigerator, porcelain sink with fresh water, lots of cupboard room. Electric lights throughout. Watertight cockpit. 11-h. p. Knox engine, underneath deck control. 60-gal. gasolene tanks; 30-gal. water tank. Outside and inside ballast, two anchors, 25 fathom galvanized chain. Sails new last season. New awning. Can be seen in Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

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15 EXCHANGE STREET, BOSTON, MASS. TELEPHONE, MAIN 23

FOR SALE. 25-foot waterline keel sloop. 39 feet overall, 9 feet 4 inches beam, 6 feet 3 inches draft. Designed by Arthur Binney and built by George Lawley and Son Corporat'n, in the usual Lawley high grade construct'n. Hard pine planking, copper fastenings, white oak frames. 7500 lbs. of lead on keel. Roomy cabin finished in mahogany and white with full head room. Two suits of sails, one almost as good as new, 863 square feet in area. 30-gallon water tank. Complete equipment including cushions, two anchors and cables, tender, etc. May be seen at Marblehead by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—One of the well-known Bar Harbor One Design Class Herreshoff sloops. 49 feet overall, 31 feet waterline, 10 feet 5 inches beam, 7 feet 4 inches draft. Built in 1903 in the usual high grade Herreshoff fashion. Five tons of lead on keel. Very comfortable cabin, toilet and galley. Sleeps four people aft and two forward comfortably. Full headroom. Roomy, watertight cockpit. Sails made by Wilson and Silsby. 1400 square feet in area. Bronze fittings throughout. Herreshoff windlass. Completely equipped in every respect with cushions, lights, cooking utensils, etc. Handles to perfection. Very fast and an ideal cruiser. May be seen at Gloucester, Mass., by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—Auxiliary pole mast schooner 60 feet overall, 40 feet waterline, 13 feet 5 inches beam, 8 feet draft. Built in 1909 and in perfect condition. 18 h. p. four cylinder Murray and Tregurtha motor. 12 tons of lead on keel, 1800 pounds lead ballast inside. Headroom in cabin 6 feet 6 inches. Owner's stateroom. Two toilets. Roomy cockpit. Complete cruising equipment, including 12-foot tender. Very easy to handle. This seaworthy, attractive craft can be purchased at an extremely reasonable figure. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—Modern 25-foot waterline keel cruising sloop 36 feet overall, 7 feet 6 inches beam, 5 feet 10 inches draft. Designed by Tams, Lemoine & Crane and built by R. Frank Wood at City Island, N. Y., in 1906. 5600 pounds of lead on keel. 11 feet cabin with 5 feet headroom finished in white enamel and mahogany. Ratsey sails. 615 square feet in area. This boat is easy to handle, fast and able. She is very handsome in appearance being finished in bright mahogany and cedar planking. Seen at Providence, R. I. by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—31-Foot Cabin Motor Boat. 8 feet beam, 2 feet 6 inches draft. Designed and built by Decker at Southport, Maine in 1911. Equipped with a 16 H. P. 1917 Carlson motor giving speed of 10 miles an hour. 14-foot cabin with 5 feet 6 inches headroom. 11 foot cockpit. Sleeps five people comfortably. For sale at a bargain price as owner is in the U. S. Navy. May be seen by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—50-Foot Military Type Express Cruiser. 11 feet 3 inches beam, 2 feet 9 inches draft. Designed and built by the Great Lakes Boat Building Corporation in 1917. 200 H. P. 8-cylinder Van Blerck motor giving speed of 22 to 24 miles an hour, which may be maintained in rough water as she was designed to be serviceable in rough water as well as smooth. Spacious bridge deck from which she is controlled. Roomy cabin, owner's stateroom aft. May be seen near New York by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—40-Foot V-Bottom Cruising Motor Boat. Built in 1915 from designs of William H. Hand, Jr. 8 feet 3 inches beam, 3 feet 6 inches draft. Equipped with a 35 H. P. McDuff motor giving speed of 14 miles an hour. Cedar planking. Brass screw fastenings, white oak frames. 25-ft. cabin with four berths. Toilet, electric lights, 50-gallon gasolene tank, 25-gallon fresh water tank, ice chest, cushions, flags, tools and complete equipment. An ideal craft for an afternoon spin or for cruising. Good as new, everything in first-class condition. Perfect single hander. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE — Auxiliary Yawl, 30 feet overall, 22 feet waterline, 10 feet 7 inches beam, 3 feet draft. Roomy cabin. 10-foot cockpit. 6 H. P. Hartford motor. 3000 pounds inside lead ballast. Enclosed toilet. New canvas on deck and cabin house. Sails nearly new. Complete equipment. Ideal single hander. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

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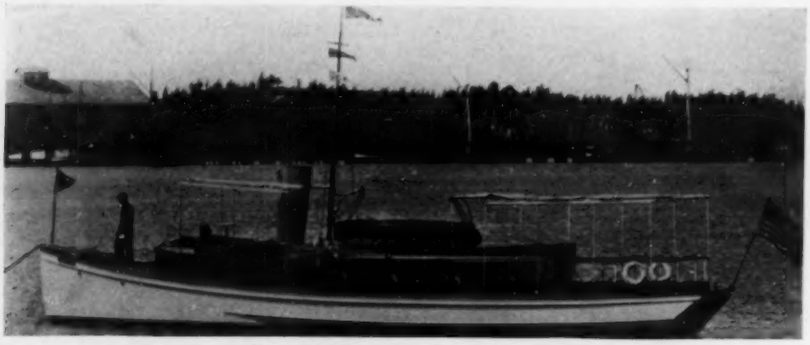
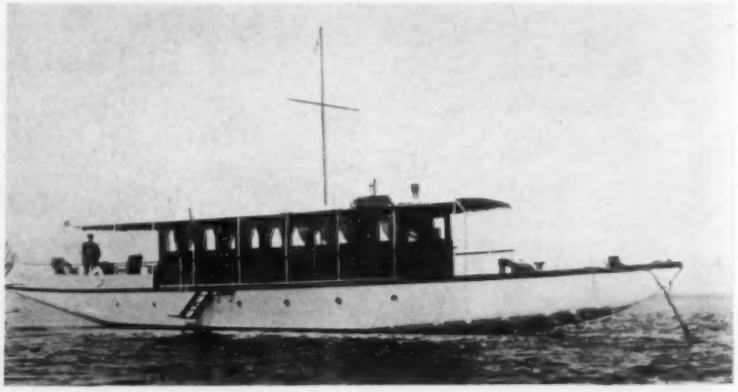


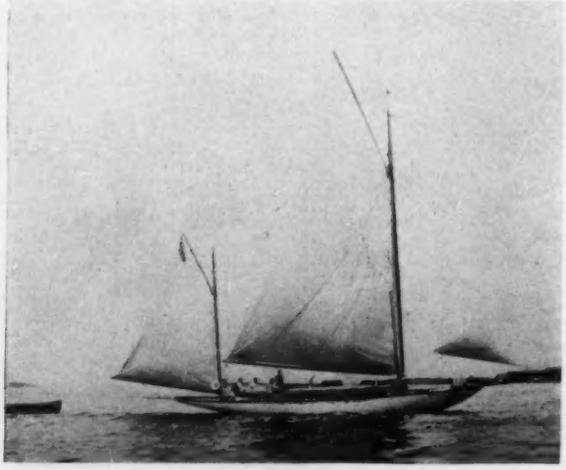
FOR SALE—At very moderate price, strongly built, seaworthy, powerful motor yacht. Equipped with a 75 H. P. Standard motor, which can drive her at good speed. Built in 1908. 54 ft. o. a., 50 ft. w. l., 11 ft. beam, 4 ft. 6 in. draught. Cabin has 6 ft. 6 in. headroom and is 21 ft. long; 11-ft. watertight cockpit. Cabin finished in mahogany and is very comfortable; toilet and lavatory. Bridge forward; engine room forward. Cabin can be divided into two staterooms, as there are heavy draperies to divide it if desired. Each of the four transoms pull out, making room for two to sleep comfortably on each transom. This boat is well found in every way, with cooking utensils, lights, three anchors and cables, oil tanks, etc. An exceptionally able and rugged boat. Anyone desiring a substantial, wholesome motor boat should not neglect this opportunity. May be seen by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—Class R Sloop, 35 feet 8 inches overall, 21 feet 8 inches waterline, 7 feet 10 inches beam, 5 feet 3 inches draft. Built in 1915. Finished bright mahogany making her extremely attractive in appearance. Outside lead ballast. Sail area 615 square feet. Hollow spars and finest rigging. Roomy cockpit and comfortable cabin. Complete in every respect. Bargain. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass

FOR SALE—Centerboard Cruising Yawl. Built in 1904 from designs of Charles D. Mower. 38 feet 7 inches overall, 30 feet 3 inches waterline, 12 feet beam, 3 feet 6 inches draft. One ton inside iron ballast, one ton outside lead ballast. Four made berths in cabin which has 6 feet 2 inches headroom and is finished in mahogany. Pipe berth in forecastle. Completely equipped and a very comfortable cruiser. May be seen at West Chatham, Cape Cod, by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—Power Houseboat, 73 feet 10 inches overall, 45 feet waterline, 14 feet 3 inches beam, 8 feet draft. Designed by N. G. Herreshoff and built by Herreshoff Manufacturing Co. at Bristol, R. I. Composite construction. Two tons of cement and stone ballast. White pine deck. Bronze fittings. Roomy cabin and one stateroom. 50 H. P. four-cylinder Holmes 9 x 9 1915 motor driving her 10 miles an hour. Electric lights. Hot water heating. 130-gallon gasolene tanks. 90-gallon water tanks A splendid boat on which to spend the summer. Would make a good tender for racing yachts as she can tow well and has large storage space for sails, etc. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.





FOR SALE—Auxiliary yawl, 51 feet overall, 33 feet waterline, 13 feet beam, 7 feet 6 inches draft. Designed and built by C. F. Brown at Pulpit Harbor, Maine, in 1903. 10 foot cabin with 6 feet 2 inches headroom, handsomely finished in mahogany and white. Two staterooms. 13 H. P. two cylinder Knox motor. Heavy construction. 8000 pounds iron ballast on keel. Sails made by Gordon and Hutchins in 1915, 1461 square feet in area. Two toilets. Comfortable watertight cockpit. Mahogany house and mahogany trimmings throughout. White pine deck. Best rigging and blocks. Complete equipment including tender, binnacle, lights, cushions, etc. A perfect cruiser. Stiff, able and easy to handle. May be seen near Boston by apply to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE. 36 foot 6 inch motor boat. 8 feet six inches beam, 2 feet 9 inches draft. Designed and built by James E. Graves, Marblehead, Mass. Equipped with a 1918 four-cylinder 25-30 H. P. gasolene and kerosene Frisbie motor, giving speed of about 10 miles an hour. 14-foot cabin with full headroom finished in natural mahogany. 12-foot watertight cockpit. Auxiliary rig, sails made by Colby in 1918. Electric lights. Beautifully cushioned in velour with heavily padded backs. Color to harmonize with natural bright finish. Complete equipment. May be seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

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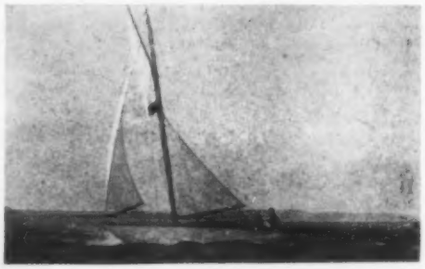
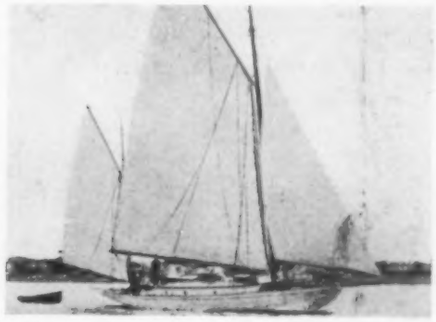
FOR SALE—50-Foot Motor Boat. 9 feet 6 inches beam, 3 feet 9 inches draft. Designed by Fred D. Lawley and built by George Lawley & Son Corporation in 1909. Equipped with a 40 H. P. four-cylinder Sterling motor giving speed of about 12 miles. Beautifully constructed and finished. Double planked with cedar inside and North Carolina pine outside. Mahogany trimmings throughout. Two gasolene tanks under cockpit, 140 gallons each and two 45-gallon water tanks under cabin floor. Full width main cabin 11 feet long finished in butternut and mahogany. Extension transoms, toilet room with full headroom, large lockers, etc. Stateroom forward with two comfortable berths. Steers from bridge. Very roomy cockpit with standing roof and side curtains. Electric lighting plant. Drop windows and skylights afford perfect ventilation. 12-foot tender carried on davits. Apply to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.



FOR SALE—One of the famous Manchester Yacht Club One Design Class. 26.4 ft. overall, 17-ft. waterline, 6.4-ft. beam and 4.3-ft. draught. Designed by Crowninshield and built by Rice Brothers at East Boothbay, Maine, in 1908. Built under Universal Rule restrictions with sharp bow, making her an ideal boat in a heavy sea. 1,500 pounds of outside lead. New suit of Herreshoff Egyptian cotton sails. Nice little cabin. These boats are seldom on the market as they have proved perfectly satisfactory, easy to handle, fast, with a little cabin for short cruises. Price $500. Can be seen near Providence, R. I. by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.



30-foot waterline auxiliary centerboard yawl. Lead ballast on keel with centerboard passing through it. 50 feet overall length, 13 feet 6 inches beam, 4 feet 6 inches draught. Built by Lawley in 1902. Beautifully finished in mahogany throughout. Roomy cabin with 6 feet 3 inches headroom. Comfortable stateroom. New suit of sails, never been used. 2-cylinder 16 h. p. 1916 Scripps motor with self starter. Electric lights.

Easy to handle. Very stiff, and an ideal yacht for cruising along the Atlantic coast, her moderate draught enabling her to sail anywhere. One of Lawley's best built yachts. May be seen in Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—One of the well known New York Yacht Club One Design Class 40-foot waterline sloops, 59 feet overall, 14 feet 5 inches beam, 8 feet draft. Designed by N. G. Herreshoff and built by the Herreshoff Mfg. Co., at Bristol, R. I., in 1916. Large main cabin and stateroom with double berth. Full headroom. Holystoned decks. Roomy galley and forecastle. Two suits of sails, one made by Herreshoff, and one by Ratsey, both in perfect order. Hollow spars. Now fitted with a short bowsprit. Complete equipment including Herreshoff tender, lights, cushions, carpets, etc. Herreshoff windlass. Steers with a wheel. Everything good as new. Can easily be converted to a cruising auxiliary if desired. Very able and seaworthy. May be purchased at a very reasonable figure to settle estate of owner. Apply to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—50-Foot Motor Boat 10 feet beam, 4 feet draft. Built by T. S. Poekel at Neponset, Mass., in 1911, in the very best manner. Spacious accommodations both above and below decks. Mahogany finished inside and out. Carries small sails for emergency and to steady in rough weather. 2 tons of inside ballast. 50 H. P. four-cylinder 6½ x 6 motor. Electric lighting plant with 6 volt dynamo. 100-gallon gasolene tanks aft. Two water tanks 70-gallon capacity. Carries two boats on davits including motor tender. Completely equipped in every respect. Can be purchased at a reasonable price. Seen near Boston by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

FOR SALE—36-Foot Motor Boat. 7 feet beam, 3 feet draft. Roomy cabin with 5 feet 6 inches headroom, finished in oak and mahogany. 18 H. P. three-cylinder 6 x 8, 18 H. P. 1913 Standard motor giving cruising speed of 9 miles an hour. 8-foot cockpit. Two 75-gallon gasolene tanks. Toilet, tender, cushions, lights and complete equipment. Price $1000. May be seen at Glenwood Landing, Long Island by applying to Hollis Burgess Yacht Agency, 15 Exchange Street, Boston, Mass.

FOR SALE—Very Attractive Motor Boat. 39 feet 8 inches overall, 9 feet beam, 3 feet draft. Designed and built by Britt Brothers at West Lynn, Mass., in 1915. 25-30 H. P. four-cylinder Niagara motor giving speed of 10 miles an hour. 7-foot watertight cockpit. Steers from bridge deck. Cabin has 6 feet 1 inch headroom and is finished in bright mahogany. Stateroom forward. Exceptionally comfortable sleeping accommodators. Extension transoms. Electric lights. Complete equipment including a motor tender. A very desirable boat in every respect. Apply to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

VERA III.

FOR SALE—One of the well-known Herreshoff Bar Harbor Class, 49 ft. over all, 31 ft. waterline, 10.5 ft. beam, 7.3 ft. draught. Roomy cabin; 5 tons outside lead ballast. Very fast and in perfect condition. May be seen in Marblehead, Mass., by applying to Hollis Burgess Yacht Agency, 15 Exchange St., Boston, Mass.

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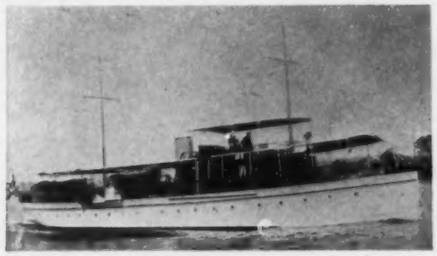
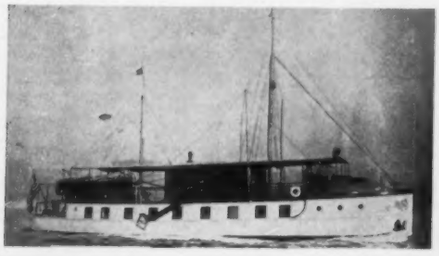


NO. 1796—FOR SALE OR CHARTER—Very roomy, twin-screw cruising power yacht, 99 x 17 x 4 ft., adapted for Florida service. Speed 12-14 miles; Standard motors. Large dining saloon, six staterooms, three bathrooms; all conveniences. Cox & Stevens, 15 William Street, New York.

NO. 1692—FOR SALE—Handsome gasoline cruiser; 66 x 13 x 4 ft. Speed 11-12 miles; 6 cyl. Standard motor. Dining saloon and galley forward; two double staterooms and bathroom aft. Best construction and finish. Cox & Stevens, 15 William Street, New York.



NO. 3151—FOR SALE OR CHARTER—Modern, twin screw gasolene houseboat, 77x 17.6 x 3 ft. Speed 11 miles. Dining and main saloons, four staterooms, two bathrooms, etc. Attractively fitted. Cox & Stevens, 15 William Street, New York.

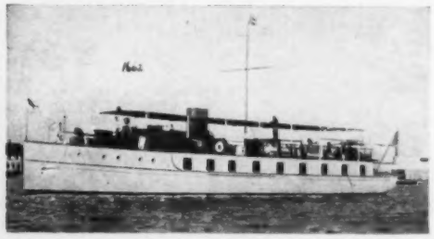
NO. 1236—BARGAIN—Smart, flush deck, Lawley built auxiliary schooner yacht; 64 x 43 x 14.4 x 9 ft. Roomy saloon, single stateroom, etc. Ratsey sails. Best of type and size available. Fast sailer. Cox & Stevens, 15 William Street, New York.

NO. 3233—FOR SALE OR CHARTER—Particularly desirable 123 ft. steel yacht. Speed up to 17 miles. Recent build. Dining saloon and social hall on deck; five staterooms, two bathrooms, etc. Cox & Stevens, 15 William Street, N. Y.

NO. 3495—FOR SALE—Practically new, roomy, high speed cruiser; 76 x 13 x 3.6 ft. Speed up to 23 miles. Dining saloon and galley forward, two double staterooms, bath and two toilets aft. Handsomely finished and furnished. Large bridge and cockpit space. Cox & Stevens, 15 William Street, New York.

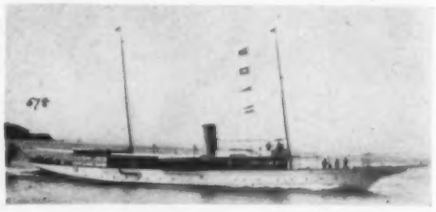
NO. 1469—FOR SALE—Able, bridge deck cruiser; 52 x 11 x 4 ft. draught; 32-37 H. P. Standard motor; speed 10-11 miles. Double stateroom, saloon, galley, toilet room, etc. Interior finish African mahogany. Bargain for quick sale. Cox & Stevens, 15 William Street, New York.

NO. 3481—FOR SALE—Practically new, high speed bridge deck cruiser; 50 x 11.3 x 2.9 ft. Speed up to 24 miles, 200 H. P. Van Blerck motor. Double stateroom, saloon, electric lights, etc. Handsomely finished. Cox & Stevens, 15 William Street, New York.



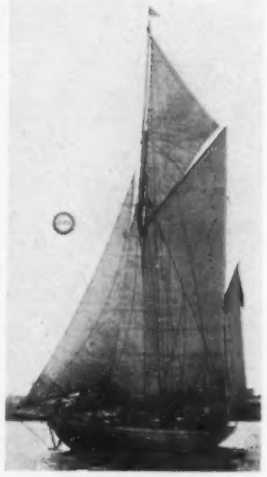
NO. 1662—FOR SALE OR CHARTER—Attractive 90 ft. twin screw gasoline houseboat; speed 10-12 miles. Large saloon, four staterooms, two bathrooms; all conveniences. Handsomely furnished. Cox & Stevens, 15 William Street, New York.

NO. 3529—FOR SALE—Fast, up-to-date 60 ft. bridge deck cruiser. Speed 18 miles; 8-cylinder Van Blerck motor (new 1917). Double stateroom, saloon, large galley, etc. Cox & Stevens, 15 William Street, New York.



NO. 57—FOR SALE—Fast, steel, steam yacht; 145 ft. x 17.3 x 7 ft. Speed 16 miles. Deck dining saloon, three staterooms, two bathrooms, etc. Handsomely finished and furnished. Fine condition. Estate anxious to sell. Cox & Stevens, 15 William Street, New York.

NO. 906—Sacrifice—Flush deck, keel auxiliary schooner yacht; 95 x 68 x 20.6 x 10 ft. Large saloon, three staterooms, bath, two toilets. Speed under power 7 miles. Cox & Stevens, 15 William St., New York.



NO. 2286 — FOR SALE OR CHARTER—Attractive auxiliary yawl; 66 x 44 x 15.5 x 5.6 ft. Accommodations include saloon, double and single stateroom, etc. Sails new 1916. Speed under power 7½ miles; 25-40 H. P. Sterling motor (new 1916). Bargain. Cox & Stevens, 15 William Street, New York.

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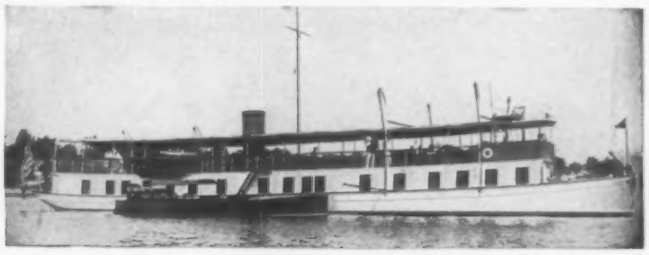

NO. 1848—SALE—CHARTER.—Modern houseboat, ideally suited for southern waters, 123 x 115 x 17.8 x 3.4 ft.; 2 Standard motors, 4 large staterooms, 2 bathrooms, saloon; very large shade deck; lighted by electricity and has new ice machine. Full particulars from Tams, Lemoine & Crane, 52 Pine St., New York.

NO. 1837—SALE—CHARTER: Commodious houseboat, 87 feet over all, 23 feet beam, 4 feet 7 inches draft. Twin-screw, two new 70 H. P. Buffalo motors, 5 large staterooms, dining saloon and deck saloon, 2 bathrooms; electric light, etc. Plans and complete particulars from Tams, Lemoine & Crane, 52 Pine Street, New York.

NO. 1849—CHARTER—Desirable houseboat, 115 x 17 x 3 feet 6 inches draft. Speed 12 miles, 5 staterooms, 3 bathrooms, main saloon, dining saloon, smoking and sitting room. Further particulars from Tams, Lemoine & Crane, 52 Pine Street, New York.

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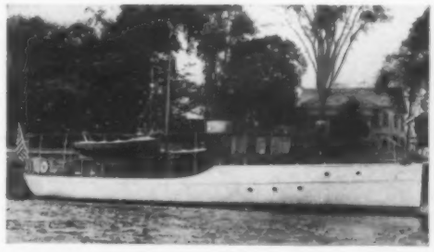
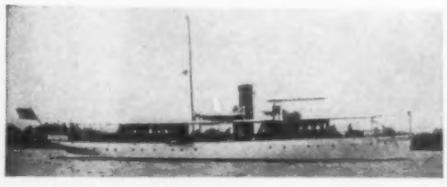
NO. 764—SALE—CHARTER—Florida Power Houseboat, 62 x 17, fifty horsepower motor, two double staterooms, etc. Apply William Gardner & Co., 1 Broadway, New York.

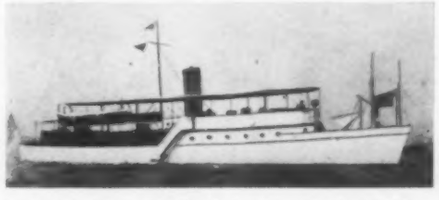


NO. 2304—Exceptionally attractive cruiser, used one season, 65 x 14, six-cylinder 20th Century motor. Apply William Gardner & Co., 1 Broadway, New York.

NO. 2243—Practically new, twin-screw 60 foot express cruiser, Sterling engines, speed 22 miles. Apply William Gardner & Co., 1 Broadway, New York.



NO. 646—SALE—CHARTER—Steel Steam Yacht, 123 x 17, two large deckhouses, five staterooms, etc. Condition good as new. Apply William Gardner & Co., 1 Broadway, New York.



NO. 924—Power Yacht, 92 ft., six-cylinder 20th Century motor recently overhauled, good deck space. Apply William Gardner & Co., 1 Broadway, New York.

NO. 1719—High Grade Cruiser, 66 x 13.4 built by Matthews Co., 50 H. P. Standard motor. Apply William Gardner & Co., 1 Broadway, New York.

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NO. 6064—FOR SALE—Keel Sloop; dimensions 50 x 30 x 10.9 x 7.5; of excellent design and build; cabin sleeps four; one of the fastest boats of her length and in excellent condition; laid up near New York; low price. Further particulars from FRANK BOWNE JONES, Yacht Agent, 29 Broadway, New York.

NO. 2257—FOR SALE—Centerboard Sloop; dimensions 40 x 30 x 12 x 2. Designed for use on Great South Bay; hull double planked; summer cabin which can be enclosed and sleeps 2; two suits of sails; outfit includes power tender; this boat is in excellent condition.

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FOR SALE—14-ft. power tender, cedar planking, oak trim, carvel planked, all copper fittings and powered with a 2 H. P. Palmer motor. An able boat and one that will carry six persons comfortably. Strongly built and very stiff. Hauling out rings are fitted so that boat may be hauled out on davits. Hull sound and engine in good order. Completely equipped with oars, oar-locks, tools, etc. Price $150. May be seen at Mamaroneck, New York. J. W. BISTER, 56 West 11th Street, New York City.

NO. 569—BARGAIN. Cruising knockabout 40 ft. o. a. 25 ft. w. l., 10 ft. beam, 4 ft. 9 in. draught without centerboard, built 1902. Full headroom, 5600 lbs. outside lead. Comfortable cabin for cruising with accommodations for 3 aft and folding berth forward. Toilet and separate galley fitted with stove space, ice box, etc. Does not pound in rough water and is a smart sailer, especially to windward. First-class condition throughout. Price, $500.00, at Quincy, Mass. Apply John G. Alden, 131 State Street, Boston, Mass.

No. 6060—FOR SALE—Auxiliary Yawl; dimensions 46 x 33.9 x 13 x 4.10; best design and build; combination keel and centerboard type; good accommodations with full headroom; new 4 cycle motor installed last year.

Further particulars from

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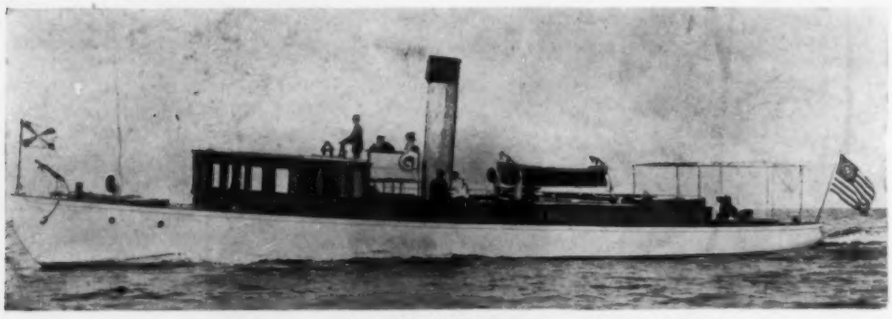

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FOR SALE Very attractive steam yacht. Would make a good patrol boat or towboat. 86 ft. over all, 78 ft. waterline, 12 ft beam, 4 ft. draught. Built by Charles L. Seabury in 1901 from designs of Binney. 39 gross tonnage, 26 net tonnage. Triple expansion Seabury engine, 7 in., 11½ in. and 17 x 10 in. new condenser, 1914. Speed 13 miles per hour. Almy water tube boiler. Comfortable cabin, handsomely furnished and finished in mahogany and butternut. One large stateroom. Carries two boats on davits. Comfortable water tight cockpit and spacious bridge. Completely equipped in every respect. This high grade yacht can be purchased at a reasonable figure to settle an estate. May be seen in Boston by applying to

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NO. 5208—FOR SALE—Finest 40-foot express cruiser afloat. Double planked mahogany, brass and copper fastened, built 1914. Equipped with 8-cylinder Sterling motor. Speed 20 to 23 miles. Boat has been used very little and is in excellent shape. Inspection and demonstration can be had at any time. Located near New York. Ideal boat for ferry service. Gielow & Orr, 52 Broadway, New York City, or Chicago Steamboat Exchange, Chicago, Illinois.

FOR SALE Fine, new racing and afternoon **Sailing Sloop**

of shoal draft, 25 ft. O. A. x 7 ft. beam x 16 ft. W. L. and 6 inch draft. Complete equipment and fitted for motor. Everything A-No. 1. Sell for half cost. Owner in draft.

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FOR SALE—Auxiliary Yawl "Senga," 45 x 30.8 x 13 x 4.6. Able, roomy and comfortable. Two-cylinder Bridgeport gives six miles. Copper gas and water tanks. Accommodations, forecastle, toilet, one double, one single stateroom—two double berths in main cabin, 6 ft. headroom, 5 tons lead on keel. Fine small boat. Two sets davits, 2 compasses with binnacles, 2 anchors, chain cables, etc. Full suit sails with storm and balloon jib. Awnings, dishes, glass and silverware. Large galley completely equipped. Mooring complete. Can be seen at Abrams, Cold Spring Harbor, L. I. For price and further particulars apply to W. T. Haskell, 354 Fourth Avenue, New York City. Care The Baker & Taylor Co.

FOR SALE—A practically new Cape Cod Dory complete with new sails, powered with a 3½ H. P. Mianus motor, only used part of one summer, in good shape in every particular. Will sell without engine if desired. Very reasonable. Inspectable at Hampton Roads. For terms and further descr ption, address Geo. F. Adams, Mgr. Hotel Chamberlin, Fortress Monroe, Va.

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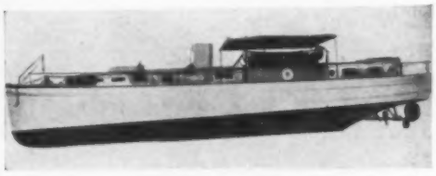

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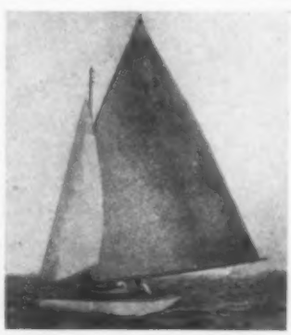

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IMMEDIATE sale desired of this 30-foot cruising launch. Cabin with 2 berths; toilet; galley. Four-cycle, 4-cylinder motor gives speed of 9 miles per hour. Fully furnished for cruising. Especially desirable for Jersey Coast. Offer solicited. Full particulars from Simon Fisch, Yacht Broker (formerly 17 years with Stanley M. Seaman), 31 East 27th Street, New York. Telephone: Madison Square 4008.

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NO. 1548—FOR SALE—Very fine, well kept up and well constructed 65 foot cruising power yacht, 12 feet 6 inches beam, 3 feet 6 inches extreme draft. Owner's accommodations very roomy, consisting of two staterooms, main saloon and bathroom. Standard motor, electric lights, Nicholson Ship Log. Owner states inspection will show boat to be in good condition. Gielow & Orr, 52 Broadway, New York City.

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An Attractive Amateur-Built Cruiser

THAT THE HOME BUILDED BOAT MAY COMPARE VERY FAVORABLY WITH THE PRODUCT OF THE PROFESSIONAL IS WELL EVIDENCED IN THIS PICTURE OF A RAISED-DECK CRUISER BUILT BY MR. HAAS OF BROOKLYN. MANY AMATEUR SHIP CARPENTERS HAVE TURNED OUT VERY CREDITABLE CRAFT, AND THE KNOCK-DOWN FRAME MATERIAL HAS SIMPLIFIED THE CONSTRUCTION OF SMALL BOAT BUILDING, BY ELIMINATING MUCH OF THE LABORIOUS WORK OF SAWING OUT FRAMES AND BENDING THEM INTO PLACE

THE picture of Roamer shows an amateur-built cruiser of good lines and of attractive finish. Mr. H. Haas of Brooklyn, is the builder and skipper of this staunch little motor-yacht and in a recent letter writes thus interestingly about his little ship.

"Roamer, which I built from a Monitor open boat frame, is 22½ ft. long of 6½ ft. beam and is constructed from heavy oak frames and finished in white pine and mahogany, and all equipment is first class in every detail. I have found her suitable to live in all summer, as the equipment includes everything needed to live aboard ship. Plenty of clothes lockers and storage space is provided, while the galley is provided with running water, ice-box, dish lockers and a combination alcohol and kerosene stove. The toilet room is conveniently located and the craft is lighted with both oil and electric lights. The cockpit is of the self-bailing type, and a wide seat runs across the cabin bulkhead, which forms a roomy space for installing the power plant.

"Roamer is equipped with a 10-12 H. P. Gray motor, of 2-cylinder 4-cycle design and turns a 16 by 16 propeller of 3 blades. This gives 5½ miles an hour which I consider a good performance on account of the heavy construction of my boat and the equipment which I carry.

"Last summer I cruised for seven weeks with my wife and covered over one thousand miles. On July 22nd we crossed the Sound to Black Rock, where we were caught in a bad squall off the New Haven breakwater. I lost my tender, and it drove the boat of one of my friends on the rocks, but the Gray motor showed her value. I had a good anchor out but kept the engine going for safety's sake, and later on towed a friend's boat which is a heavy craft of 28 feet length, to the Morris Cove anchorage.

From New Haven we stopped at Duck Island for the night, and from there went to Stonington, and then to Point Judith and thence on to Pawtucket. On our way we encountered another storm off Prudence Island, but the little Gray kept right on going without missing once.

Besides being very economical, ourmot or is reliable and needs very little care. My wife is able to start and handle her as well as I. After making a number of short trips in Naragansett Bay, we started on our home voyage and made the return trip to Brooklyn through the Sound and Hell Gate without trouble of any kind and delighted with our cruise.

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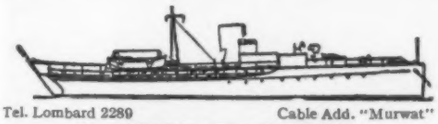
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Buying a Boat

IS A MATTER DEMANDING AS MUCH CAREFUL DESCRIMINATION AS THE PURCHASE OF A HOUSE. A BOAT IS A BOAT ONLY IN SO FAR AS IT FLOATS AND TO FIND THE BEST CRAFT DESIGNED AND CONSTRUCTED TO GIVE THE UTMOST SATISFACTION FOR WHICH YOU REQUIRE IT THE PURCHASER SHOULD KNOW THE GOOD POINTS OF A BOAT. THE SALIENT POINTS WHICH SHOULD BE KNOWN IN ORDER TO SELECT A GOOD YACHT OF ANY CLASS IS BRIEFLY BUT COMPREHENSIVELY COVERED IN AN ARTICLE ON HOW TO PICK OUT A BOAT IN THIS ISSUE. AND IN THIS—OUR SPECIAL FOR-SALE—NUMBER THERE ARE MANY GOOD YACHTS OFFERED FOR SALE. THIS SEASON IS AN UNUSUAL ONE THROUGH THE RESULT OF THE WAR AND THERE ARE MANY UNUSUAL VALUES TO BE OBTAINED FOR THIS REASON. MANY BOATS HAVE BEEN PUT ON THE MARKET THIS YEAR BECAUSE THE OWNERS HAVE BEEN CALLED TO THE COLORS, AND IN MANY INSTANCES THE REAL VALUE OF THE CRAFT HAS BEEN SACRIFICED IN ORDER TO DISPOSE OF IT QUICKLY. AGAIN, MANY YACHTS ARE OWNED BY PARTNERS AND THE ENLISTMENT OF ONE IN THE SERVICE HAS IN MANY CASES PUT THE YACHT UPON THE MARKET. THIS YEAR IS THEREFORE AN EXCELLENT TIME TO PICK UP A GOOD BOAT AT A REASONABLE PRICE, AND AMONG THE MANY OFFERED THROUGH THE ADVERTISERS IN THIS NUMBER, THE PROSPECTIVE PURCHASER SHOULD HAVE NO TROUBLE IN FINDING JUST THE BOAT THAT WILL GIVE HIM THE MOST SATISFACTION.

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WILLIAM ATKIN, Editor
STILLMAN TAYLOR, Associate

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Yachting's

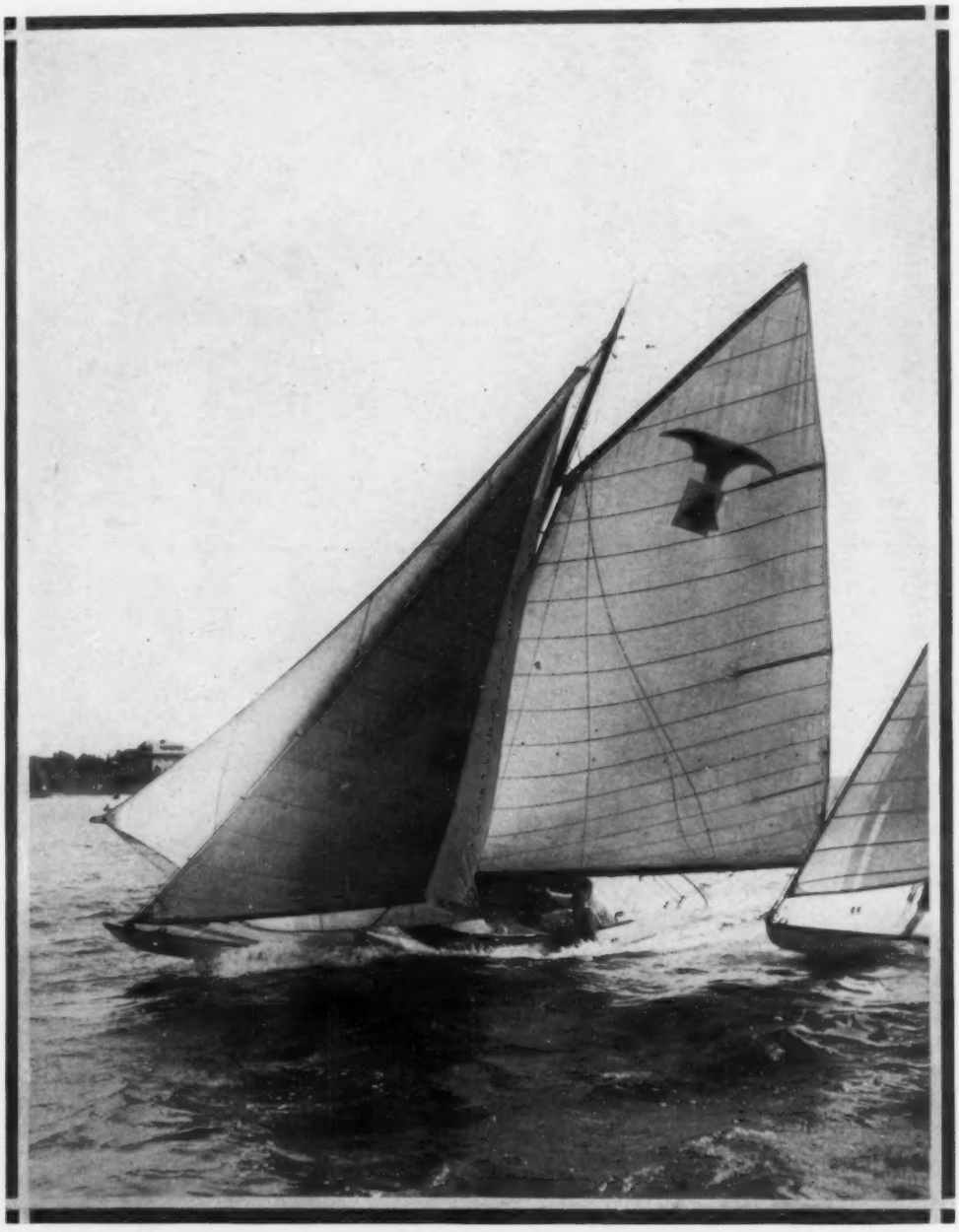
APRIL NUMBER IS ALSO A SPECIAL ISSUE—A FITTING-OUT NUMBER IN WHICH WILL APPEAR MANY GOOD THINGS ON TIMELY TOPICS. PUTTING THE BOAT INTO COMMISSION IS ALWAYS AN IMPORTANT SUBJECT FOR THE YACHTSMAN WHO DOES MUCH OF THIS NECESSARY WORK HIMSELF, AND IN OUR APRIL NUMBER THE PRACTICAL SIDE OF THE SUBJECT WILL BE WELL COVERED BY INFORMATIVE ARTICLES.

'Twas a True Yarn

THE FOLLOWING IS AN EXCERPT FROM A LETTER FROM RALPH F. PAULDING OF PLYMOUTH, MASS., THAT DRIFTED IN BY POST A FEW DAYS AGO. "I AM INTERESTED IN A SERIAL JUST CONCLUDED: 'A SECOND MATE'S YARN,' ONE OF THE MOST TYPICAL AND GRAPHIC YARNS I HAVE EVER PERUSED. TO BE SURE MUCH OF THE THREAD IS LOST IN THE ABSENCE OF THESE TWO NUMBERS. PERHAPS THE REASON FOR MY INTEREST IN THE SERIAL IS SLIGHTLY OUT OF THE ORDINARY, FOR THE STEWARD, WHOSE PICTURE APPEARS SEVERAL TIMES IS A NEIGHBOR OF MINE, AND I HAVE JUST DISCUSSED THE STORY WITH HIM.

"AGAIN, THE FIRST MATE, I BELIEVE THAT WAS HIS RATING, IS A FORMER NEIGHBOR AND INTIMATE FRIEND, NOW CAPT. EDMUND MORTON WHO HAS MADE A NAME FOR HIMSELF IN U. S. CIRCLES.

"KINDLY LET ME KNOW IF I CAN SECURE THE JAN. AND FEB. YACHTING FOR 'CHARLES WELCH, THE SCULLY BOY' IS ANXIOUS TO COMPLETE HIS FILES."



HURRYING down the wind before the urge of a fresh breeze, and with lee rails awash the Bayside birds offer for youngsters and oldtimers alike a sport that develops quick and accurate thinking, healthfulness, and sportsmanship.

The first of these little boats were designed in 1912 by William Gardiner and built by Nevins, of City Island, for members of the Bayside Yacht Club. Their over all length is 28 ft. 6 in., water line 18 ft., and beam 7 ft., while their draft is 2 ft. 8 in.

MAR 30 1918
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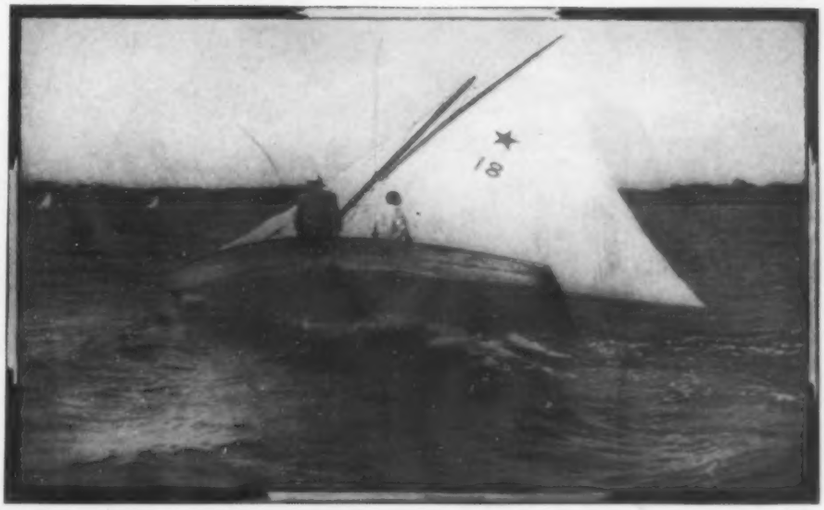
YACHTING

VOLUME XXIII, NUMBER III MARCH, 1918 25 Cents a Copy $2.50 a Year



THE SKIPPER OF THE SMALL SAILING BOAT IS ALWAYS AN ENTHUSIASTIC YACHTSMAN, AND THE STAR-CLASS HAS DONE MUCH TO PROMOTE INTEREST IN RACING AMATEUR-MANNED CRAFT

Bayside and Its Yachtsmen Unafraid

Nearby the City of New York, on Long Island, Nestling Close Beside the Shimmering Waters of the Sound is the Attractive Home of Over Three Hundred Yachtsmen—The Bayside Yacht Club.

By STILLMAN TAYLOR

A VARIED scenic panorama greets and entertains the eye of the visiting yachtsmen who approaches Long Island from the rocky northshore. Bluffs and vales alternate with open stretches of light green sward and dark green belts of venerable forests contrast to form an attractive picture. The appealing charm of this island is highly appreciated by New Yorkers and many thousands of city workers willingly elect to brave the hidden dangers, the hardships of traveling by the skip-and-stop-along B. R. T. for the privilege of dwelling in this or that delightful suburb which dots this isle all the way from Brooklyn to Orient Point. And a greater appreciation for sparkling waters and sunshine hath no man than this.

As New Yorkers have made Long Island a very inviting recreation ground, it may be interesting to recall in passing that Captain Kidd, the bold and doughty rover of the seas, is believed to have often visited these shores. The Captain was a Scot and after coming to New York, the historian tells us that he succumbed to the wiles of a fascinating widow whom he married in 1691. For a time he followed the career of a prosperous shipmaster and in 1695 had command of a privateer cruising against the French in West Indian waters. A few years later we find our roving hero in command of the brigantine *Antigoa* of New York, but the venture failed and the Captain sought to mend his fortune by taking command of the good ship *Adventure*, mounting 34 guns and carrying a crew of 80 men. In this gallant craft he sailed in the month of May, 1696, out of Plymouth bound for New York. On the way our Captain fell in with a French fishing craft off the Newfoundland banks and annexed her, but this was not regarded as an act of piracy but perfectly legal as a privateer. But the next few months brought in nothing and while the Captain was commissioned to search for pirate ships, he had no luck in finding them off Madagascar, and coming a long way since leaving New York, Kidd decided to turn pirate himself. Several Dutch and Moorish vessels were captured, among them the fine 400-ton merchantman named the *Queda*. Kidd chased this ship under French colors and captured her as a prize, and a valuable one she proved to be, for the cargo was sold for about $50,000, each man being enriched by some $500, while Kidd retained the balance.

When Captain Kidd arrived at the West Indies he learned that his deeds had spread over the whole civilized world and that he was wanted as a pirate. Handing over his vessel to a man named Bolton, he bought the sloop *San Antonio* and putting all his treasure aboard he set sail once more. He was now anxious to communicate with his wife and steered for Long Island Sound and proceeded as far as Oyster Bay where he landed. At the end of June he headed for Boston, but he was here arrested and in a few weeks was taken across to England. With six others he was tried at the session of the Admiralty in May, 1701, for piracy and robbery on the high seas and found guilty. The Captain's plea that his accusers had mutinied against him was overruled by the court and a week later he and his companions were executed at Execution Dock and their bodies hung up in chains along the river, where they remained for a long time.

While the treasures alleged to have been captured by Captain Kidd have been exaggerated and fictionized there is evidence to support the statement that the amount of gold dust, coins, gold and silver bars and precious stones amounted to a vast amount.

CHARLES L. WILLARD, SECRETARY

Kidd is reputed to have buried his treasure—in the big oaken brass-bound chest, at hundreds of places along the coast. At

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Sergeant Wm. A. Leonard, Company I, 107th Infantry, U. S. Army.
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Private Harry W. Everett, Company I, 107th Infantry.
Private Roland E. Phillips, Jr., Company L, 165th U. S. Infantry, American Expeditionary Forces, France.
Private Henry K. Adikes, Company I, 165th Infantry, 42nd Division, American Expeditionary Forces, France.
Private Thos. F. Herrick, Company A, Signal Corps.
William Nash Webb, U. S. Aeronautic Service.
Mechanic George J. Gillies, Company F, 107th Infantry.

Gardner's Island dwells an old fisherman who treasures a small diamond, which has been—so he says, handed down to him by his ancestors, who obtained it from Captain Kidd in rather an odd manner. This ancestor of my fisherman friend was a trusted member of the Captain's crew, and once when a bag of precious stones was emptied in dividing the booty, several

WILLIAM R. TELLER, COMMODORE

diamonds happened to remain lodged in the bag, and this is how the gem came into his possession. This is the tale as the fisher

WILLIAM H. JOHNS, EX-COMMODORE

man told it to me and very likely still tells it to the yachtsmen who chance to go that way.

The good old pirate days have long since departed and while the age of machinery has greatly replaced many of the fine old sailing ships which formerly sailed the waters of the Sound, the recreation of sailing is kept well alive by the many yacht clubs on the island, prominent among which is included the Bayside Yacht Club. The history of this active club covers several years and began when the Douglaston Yacht Club moved to Port Washington to become the Manhasset Bay Yacht Club. This left the neighborhood without an organization devoted to yachting, and feeling this loss and prompted by the desire to use the attractive water of Little Neck Bay for small boat sailing, the Bayside Yacht Club was organized in 1902 by a few men and gained a membership of thirty-one during the first season. Without funds and with but a few boats in its fleet, a small building was rented, roughly furnished, and in August, 1902, the burgee of the Bayside Yacht Club was flung to the breeze.

WILLIAM C. POERTNER, VICE-COMMODORE

THE BAYSIDE CLUB IN THE EARLY DAYS OF ITS EXISTENCE

DAVID H. KNOTT, REAR-COMMODORE

Despite the predictions of wiseacres who doomed the club to failure, the Bayside Club continued to live and prosper. The most enthusiastic amateur is the small-boat sailor—the man who handles his own tiller and loves the sport for the sport's sake. These were the sort of men who rallied to the club, bringing with them at all times their wives and sweethearts, not only to enjoy the pleasures of sailing but to indulge in the social gayety which forms a large part of the club as well.

In a few months it was evident that the Bayside Club had come to stay and in January, 1903, the Bayside Yacht Club was legally incorporated and as the need of a suitable home became pressing, a

(Continued on page 152)

THE COMFORTABLE AND ATTRACTIVE HOUSE OF THE BAYSIDE YACHT CLUB IS A FAVORITE PLACE OF ASSEMBLY AND THE SOCIAL LIFE OF THE CLUB DOES NOT OVERLOOK THE YOUNGSTERS

How to Pick Out a Good Boat

A Few Practical Hints On Purchasing a Boat and Motor That Will Give Its New Owner the Fullest Measure of Pleasure and Satisfaction

IF the prospective purchaser knows exactly the kind of a craft which will best serve his needs, the problem is simply a matter of purchase. But many new members join the large and growing yachting fleet each year and while possessing a strong desire to own some kind of a boat, many are without experience relative to the merits and uses of different crafts. There are boats and boats, some are well designed and soundly constructed, while others are cheaply and poorly built—to sell and not for long service. The difficulty of picking a good boat is therefore a question of thorough examination and deductive discrimination. Most boats appear attractive enough to the eye when casually viewed but only a careful examination will rightly appraise the buyer of the soundness and actual intrinsic worth of the craft. This is particularly true in considering the purchase of a second-hand boat.

The best time to buy a boat cheaply is during the winter season when every yard is well stocked with new boats and there are many second-hand crafts hauled out. If you know the good points of a boat it will be an easy matter to find one that meets your requirements, but if you happen to be a new hand at the fascinating boating game, it will pay to get someone who knows boats to accompany you. The novice often finds it difficult to size up a boat when it is hauled out, for a boat and especially a second-hand one, is at this time seen at a disadvantage. Many a good craft will show flaking paint, blackened wood and numerous minor flaws which are easily remedied when the boat is put into commission. These things make the used boat appear in an unfavorable light to the casual observer, but in no way detracts from its real value. In contrast to this, many boats offered for sale late in the spring will appear spick-and-span and not a few old hulks will be cleverly dressed up to look like something they are certainly not.

Although many boats of poor design, faulty construction and damaged through hard and careless use are put up for sale, there are plenty of good boats placed on the market each year. If a boat is a good one of its kind and has been given reasonable good care, there is no reason why it will not give many years of satisfactory service. Boats change owners for many good reasons. A comparatively few are offered for sale, camouflaged in much the way a horse is doctored up to lend a certain selling value to a worthless article, but there are a great number of good values on the market. The present season is an unusual one and as the sport of yachting has naturally suffered along with our other sports, a forecast of the coming season leads to the belief that while fewer boats will be put into commission this year, the fleet of small craft will not be so greatly thinned as the larger boats, and that yachting with motor and sail will continue to contribute its wholesome pleasure in the world of sport.

A glance at the advertised boats which appear in our pages for this month, picture and describe a wide variety of attractive yachts which may be purchased in many instances at a very large discount from their original cost to build. The price set upon a second-hand boat for example, is not always in just proportion to its first cost or real boat value, because a limited demand for a particular type may make it necessary to sacrifice to effect its sale. In the case of some popular types of motor craft, this may not hold true, because when a boat is in fine condition and of a popular design, there is often no need to reduce the price to a very low figure in order to dispose of it. A good boat should be regarded as a good investment when considered from the point of view of the pleasure which it affords, and while a boat may be inexpensive, the purchaser should be willing to pay a fair price for a good article.

To obtain the most pleasure from yachting it is important to select a craft well suited to your needs. No matter how fine a bargain it may appear, a boat will surely fail to measure up to your expectations if it is not of the particular type designed for the use you want it for. The requirements of yachtsmen are diverse, hence if you happen to want a boat for exposed rough water, do not pick a shallow craft with narrow beam, but choose a beamy craft of fair draft, good freeboard and a fair amount of sheer. For smooth water use in river and lake, the smaller boats made in large numbers from stock models are especially designed for this class of boating, and are for this reason more satisfactory than when used on rough water.

As a boat will appear much larger when viewed out of water the inexperienced man is likely to regard a 20-footer as a big boat, but will later on reverse his opinion after he gets familiar with the craft on the water. The size of the pocket-book will naturally govern the size of boat purchased, but if you cannot afford a big classy boat you can buy a good small one and experience all the wholesome pleasure of yachting fully as well. In buying a low-priced boat the most satisfaction is gained by picking out a plainly painted craft, rather than a mahogany trimmed boat with highly varnished finish. If this is done your money will be invested in the hull rather than in fancy decorations.

There is no standard of price by which to judge the value of a boat. A good boat can be purchased from $150 to $5,000 and up, and the buyer can obtain full boat value at any one of the figures. Because there are so many different things entering in the cost of a boat, about the only good advice that can be given is to emphasize the value of high-grade workmanship, which not

Minnowbrook on Green Mountain Lake

FOR a man who spends his vacation on the shores of some mountain lake the runabout is a particularly attractive boat in which to indulge the desire to travel about on the water. In Minnowbrook is shown a 27-footer designed and built by George Lawley & Son Corp. for Mr. F. N. Kimball of Boston, who uses his natty little craft on the picturesque mountain-bound waters of Blue Mountain Lake. Minnowbrook is thoroughly well constructed and a heavy skeg protects the keel against floating logs which are prevalent in this sheet of water. While this naturally detracts from the speed, the 50 H. P. Sterling motor, turning an 18-in. Columbian propeller at 1200 to 1400 revolutions, gives a steady speed of 21 miles an hour.

only adds to the service of a boat, but is a good asset when you want to sell it.

When your choice is made among boats of the cruising class, do not buy without well weighing the important factors. Should you want the boat for short trips and for day sailing, pick a boat having plenty of cockpit room. For average summer cruising good deck and cockpit space is desirable and should not be sacrificed for a roomy cabin. You are sure to spend more time on deck than below, and this should not be overlooked. Every boat of the cruising class—even the smallest, must possess sea going qualities, and this cannot be had by building a high raised deck or cabin on a small boat in the attempt to obtain full headroom. Do not attempt the impossible, but make up your mind to put up with less than 6 feet headroom in a comparatively small boat, rather than make the craft top-heavy. And if you want a boat for rough water use, do not pick a craft having very fine and sharp lines forward. A boat of this design is best suited for smooth water and will dive and pitch in rough water. Flare is a desirable quality in a cruising craft, providing it is not misplaced and forward enough to throw the water away from the boat to keep it dry in a seaway.

To summarize the several types of boats, it may be mentioned that for sheltered waters, the high-speed type of motor yacht will probably fill the bill, while for salt-water use the choice may begin with the power-dory and run all the way up to the big and roomy deep water cruiser of the whale-boat type. And if perchance you prefer sail to power, there are a large number of good types to choose from. The fast open-cat boat and the natty little knockabout are attractive boats that are easily handled by boys and girls as well as by men and women, while the sailing dory is an old favorite which should not be overlooked. For cruising the cabin-cat, the sloop and the yawl rigged boats are all time-tested types and all may be fitted with a motor for auxiliary power at the option of the owner.

When picking out a second-hand boat and having found one whose lines are good and it otherwise appears to measure up to your expectations, the craft should be given a thorough examination—keel-hauled from stem to stern. If it is a motor propelled boat, begin the once-over at the stern and find out if the head of the stern-post has been affected by the vibration of the motor. Any weakness is pretty sure to show up here, particularly where the planking is tapered aft. The shaft may next be looked over to see if it is in alignment. By giving the propeller a turn or two any bend may be quickly detected at the extreme end of the shaft as it rotates. Of course the shaft must be true or the motor will set up excessive vibration when running and this will cause leakage of the stuffing-box, loosen up the lag screws holding it, and may even open up the planking seams under the transom. If a boat needs a new shaft, this and any other article of equipment needing replacement, should be noted and when all are added up the total may mount up to offset what at first appeared as a bargain.

To find the condition of the deadwoods, a little judicious probing with the blade of your knife will quickly disclose any weaknesses in this vital part of the boat. If the deadwoods are soft and black, pass the boat by. The garboard strake of planking should also be examined, as this plank next to the keel, will rot out first and the seams are also likely to first open up between it and the keel. If these parts of the craft are unsound they must be replaced, but the cost of doing this and all other repair work necessary to put the boat in first class condition, should be jotted down.

The hull beneath the engine bed is the next logical point to be examined. If the boat leaks here it is a doubtful purchase, for any open seams under the motor indicates that the engine has strained the hull—because of too much power or through the insufficient support of a poorly fitted engine bed.

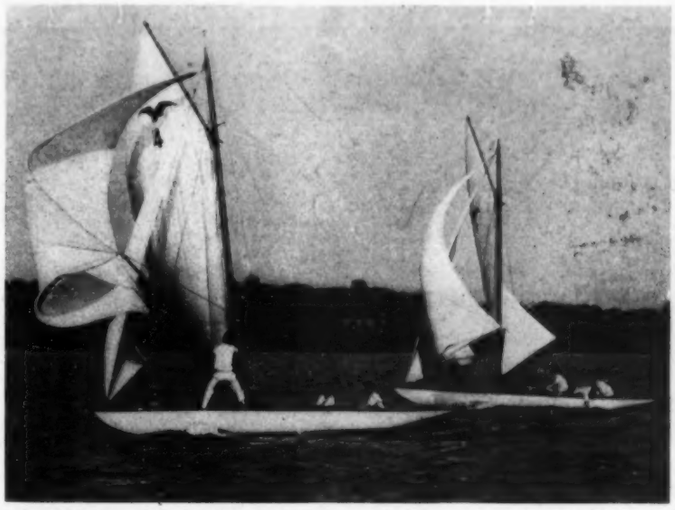
In looking over a sailing craft fitted with an iron shoe, it is well to remember that any strain is certain to be found where the keel joins the hull. Any weakness along the garboard planking will loosen up the caulking when the craft is caught in the first rough sea. The knife may be used to probe for weak spots along the water-line, but the soundness of the boat is easily found within a few feet of the stern-post. The fact that a boat has been built some ten or twenty years ago really means nothing. Some boats thirty years old are still staunch and seaworthy, because the craft was well built and well used. Another boat but a few years old may prove less desirable, because of poor construction, ill usage or both.

After examining the outside of the boat the inside of the hull should be examined. By lifting up the flooring the condition of the frames can be seen. Some may be found rotted away if the craft is an old one. If a new rib is found set close against the old ones, the boat has been rebuilt or the reinforced frame was put in to strengthen the old so it could stand a considerable strand. In both cases these repairs should be taken as an indication of weakness, and the evidence should be considered before purchasing.

Dry-rot is the result of dampness and lack of ventilation and the places to look for it are under the after deck, between the ceiling and around the heel of a mast. With your knife test the planking that lies in the bilge water, for any soft wood here should disqualify the boat. Leaky decks around cabin coamings, pipe of the rudder-port and cracked canvas decks can be easily repaired, but all weaknesses in the hull are more costly to make.

THE inexperienced purchaser of a power plant has much less visible evidence to check up and indicate the value of the motor in point of service, than when he selects the hull. If he is not familiar with the good points of a gas-engine then the name plate which it bears may be depended upon as a certain safe guard, insofar as the motor is thus tagged with the product of a reputable manufacturer. If the motor is a good one of its type it will bear the name of a reliable maker and this is an assurance that the machine is well designed and honestly made. When the motor is installed in the boat there is reason to assume that it is of a type well suited to propel the craft, although this may not always be the case.

The Bird-class Are Fast 28-Footers



THE fun of participating in a closely contested race is always an enjoyable event for amateur sailors. With the surge of the ship communicated by the tiller in his hands the craft seems more than an inanimate wooden thing and appears pulsating with responsive life as it obeys the helmsman who guides his craft here and there to take full advantage of a favorable puff of wind and tidal eddy to gain a bit of open water between his ship and the rival boat. All this and much more is suggested to the yachtsman by this picture of the Bird-class breaking out spinnakers.

The question of whether the two or four-cycle motor is preferable depends upon the kind of boat and the service expected of it. In setting down the merits of the two types of motors, it may be mentioned that the two-cycle engine is the most simple mechanism, possessing fewer working parts and is consequently cheaper in price. The four-cycle motor on the other hand is more economical in fuel, and for motors having more than one cylinder, the four-cycle is the best choice. It is the general opinion among practical yachtsmen and boatmen that the two-cycle motor is very satisfactory in the smaller sizes, for heavy duty use where but one cylinder of the low-base compression design of motor is chosen. For motors of the high-speed type having more than one cylinder the four-cycle type of motor is the best choice.

The choice between the make-and-break and the jump spark ignition systems is another point to decide upon. As a rule the make-and-break device is confined to interrupt the current on slow and medium-speed motors, while the jump-spark system is used on high speed motors. When the motor is exposed in the open boat, the make-and-break is the best, because the low-tension current is less likely to be short circuited by water. When the motor is protected under a hatch or installed in the cabin, the high-tension jump spark ignition system is usually preferred.

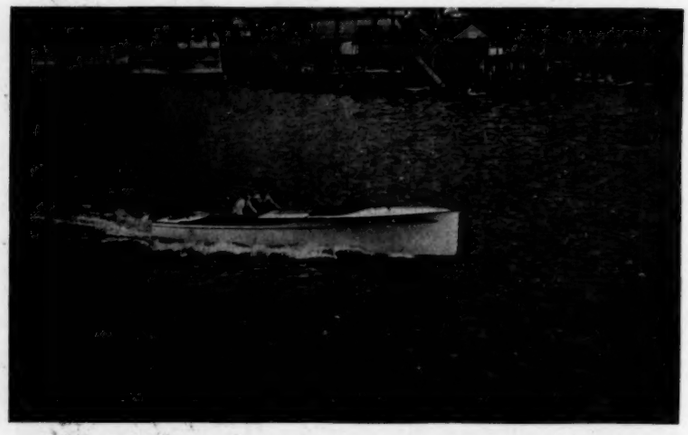
The make-and-break system is mechanically operated and the mechanism is simple and easy to adjust. The chief things to look for is that the moving parts are well made and that the spring is heavy enough to trip the make-and-break device quickly to obtain a good spark. The sparking points should be of good size and formed of good material to stand up under the constant hammering of the contact. Some make-and-break mechanisms are so well made that they will run through a season without requiring attention while less well made devices require constant attention to make them work at all.

The jump-spark system makes use of an induction coil to step up the low-tension current into a high-tension current. To give good service the coil should bear the name of a reliable manufacturer and the platinum points should be large to insure good contact.

The whole motor should be examined as thoroughly as possible, for there is no way of determining the actual condition of a used engine in any other manner. The main bearings, connecting rod, etc., should be examined, and all moving parts must be built heavy enough to stand the stress and strain of much service. The main bearings in particular should be large and strong and accessibility is a point not to be overlooked. Some motors can only be taken apart with special wrenches, but a well designed motor is assembled with bolts and screws of good size and plenty of room is allowed to use the wrench and screwdriver to make any needed adjustments. Hand-holes should be of good size to enable one to get at the vital parts without taking the motor apart. Valves and their springs must be easily reached for these hard worked parts of a motor must be occasionally examined and ground in to enable the mechanism to function properly.

When buying the motor installed in the hull make it a point to find out if the engine is well set up on its bed, which should be firmly built on the frames of the hull to distribute the weight of the power plant over as much of the boat as feasible. Many motors develop excessive vibration and this is no fault of the machine but commonly caused by a too short engine bed. If the engine bed is properly made to support the motor, the shaft will be true, but if not found so, the shaft is likely to be out of alignment and this must be remedied. Worn bearings will cause knocking in the motor and show a marked loss in power. Heavy oil and grease will dope the bearings to make them appear to be fairly well adjusted and this trick is occasionally put over to dispose of a doubtful motor.

Heigh-go Is a Classy 18-miler



THE motor-yacht of the runabout type is a form of modern craft which has a very wide appeal, and a good illustration of this class of popular craft is well pictured in the profile view of High-go, a 38-footer built by the Camden Anchor-Rockland Machine Co. for Mr. Preston Player of Boston. This attractive runabout is constructed from the highest grade material throughout and is highly finished. The power-plant is a model B 20-35 H. P. Sterling motor which is conveniently installed amidships in a specially constructed motor compartment.

A Book of Wander-Ships

THE sunburned Jack Tar has long been a favorite and a picturesque character in the prose and poesy of the sea, but as the coming of the age of machinery and steam has supplanted the sailing craft of our fathers, the old romantic figure of Jack has passed on and only the fishermen and the coaster remains to perpetuate the traditions of the winged ships of yesterday.

The fascination of the ever changing sea has always furnished entertainment and pleasure to the traveler and to the reader, and the many curious legends of phantom ships that passed white and ghost-like on its way, have been gathered together in this interesting volume which will appeal to many readers of YACHTING magazine. Here is a fragment of one of the tales about the Giant Ship.

"The boy, straining his eyes to windward, saw a faint blackness on the horizon, which grew as he watched into a smudge of smoke. Struggling to his feet he stood shading his eyes in the fading light, seeing the faint blur lengthen and darken until it was unmistakably the breath of some high-powered ship. In a frenzy of glad excitement he strove in vain to arouse the old sailor, who had sunk again into a deep sleep. Hurriedly he tore the back from his blouse and lashed it to the blade of a long oar which he held aloft in the light breeze.

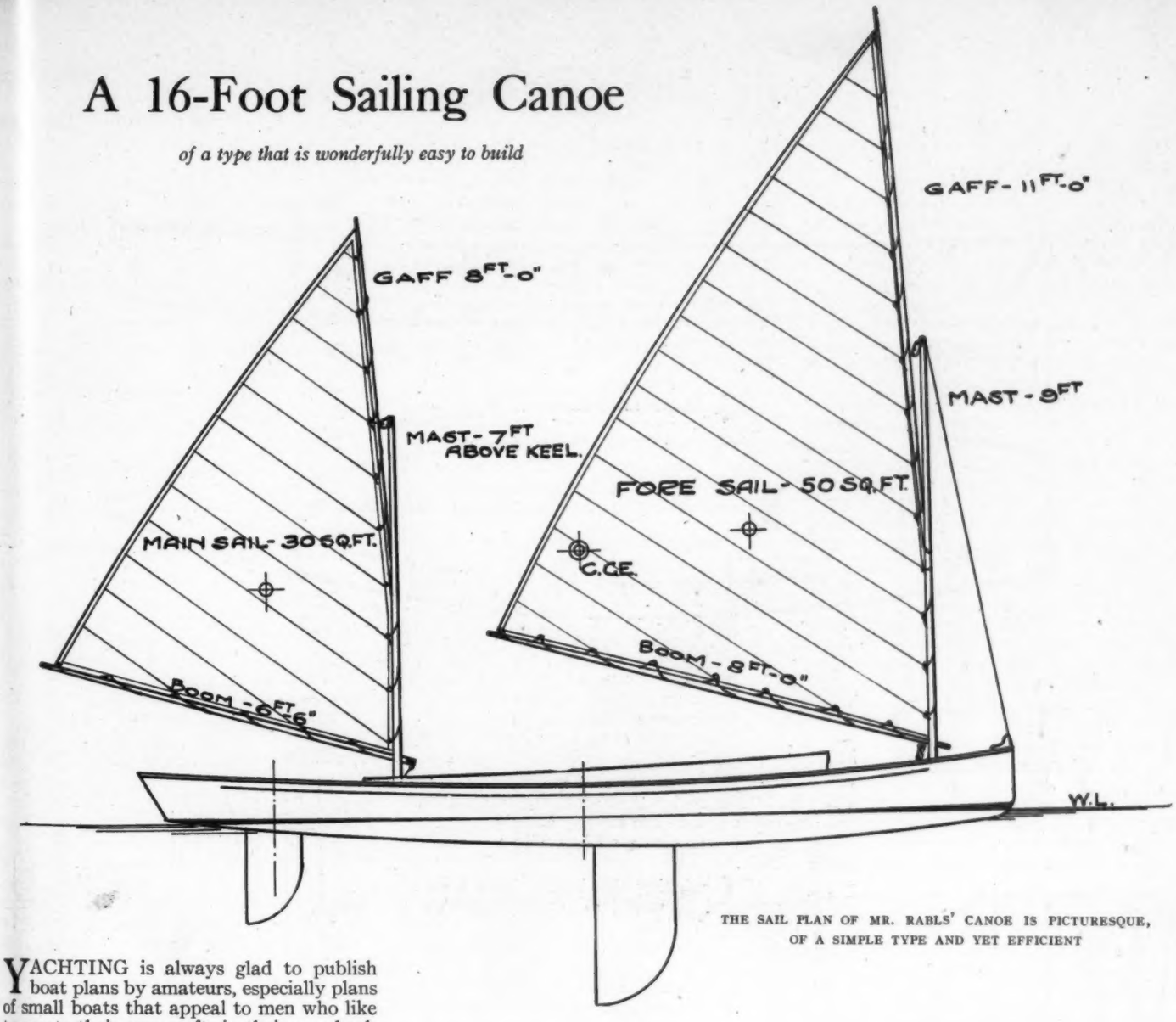
"Slowly but surely a dark line appeared below the streamer of smoke and his heart raced with the hope that the approaching vessel would see his ragged signal before night set in. Like some pasteboard ship upon a painted drop she moved nearer and nearer until presently, in the dim evening light, she seemed to gradually expand. Brass rails and white cabin walls suddenly appeared and as the boy waved his tattered pennant to and fro he saw the long ship's sides swing away and the great bow, crowned with its lines of stacks, stood toward him.

"He shouted wildly, 'Grandfather, grandfather, she sees us! She is coming!'"

This is but one of the episodes found in the book of Wander-Ships written by Wilbur Bassett and published by The Open Court Pub. Co., of Chicago, that has lately reached the editor's desk.

A 16-Foot Sailing Canoe

of a type that is wonderfully easy to build



THE SAIL PLAN OF MR. RABLS' CANOE IS PICTURESQUE, OF A SIMPLE TYPE AND YET EFFICIENT

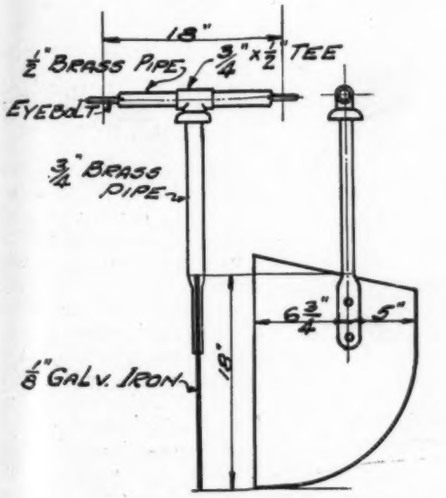
YACHTING is always glad to publish boat plans by amateurs, especially plans of small boats that appeal to men who like to create their own crafts in their own back yards. Here, therefore, are the plans of a 16-ft. flat-bottomed canoe, an easy-to-build little boat and a good one too. The excerpts herewith from Mr. S. S. Rabls of Baltimore, Maryland, her designer, seem not amiss so here they are:

"After reading the editorial in the January number of YACHTING, I wish to say that I agree with the man that praised your magazine so highly.

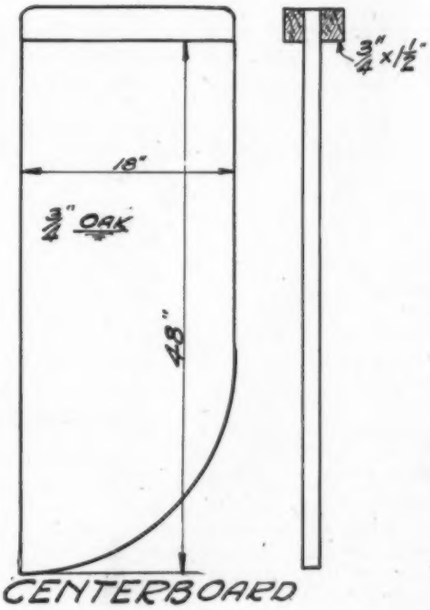
"The plan of that little 'auxiliary cruiser' (the 12-foot dinghy from plans by Gerald T. White) was bully; she is just the sort of boat the youngsters—the yachtsmen of tomorrow—must turn to for it is almost impossible to buy a new boat now.

"That picture of Mysterie II going to it thrilled me and I was reminded of a little boat I owned back in the days when Tamerlane was famous.

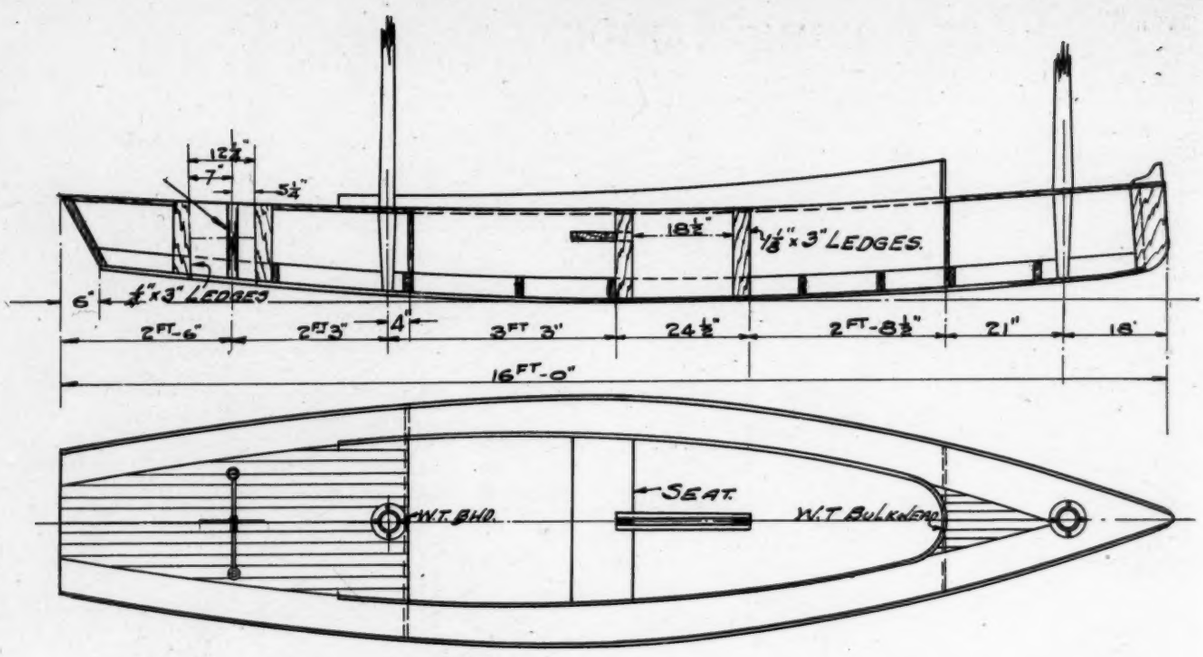
"My little boat was but 14 feet long overall with a beam of about 4 feet but carried all the sails the big Tamerlane did. Outside of the fact that it only took a four foot plank over the side to hold her up in a blow, and two men to work all her sails, she was a good boat.

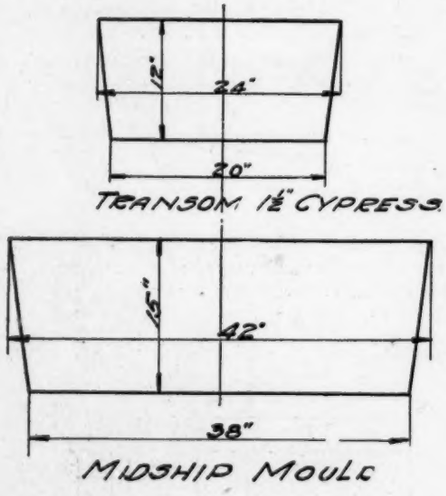


RUDDER - PORTABLE



CENTERBOARD





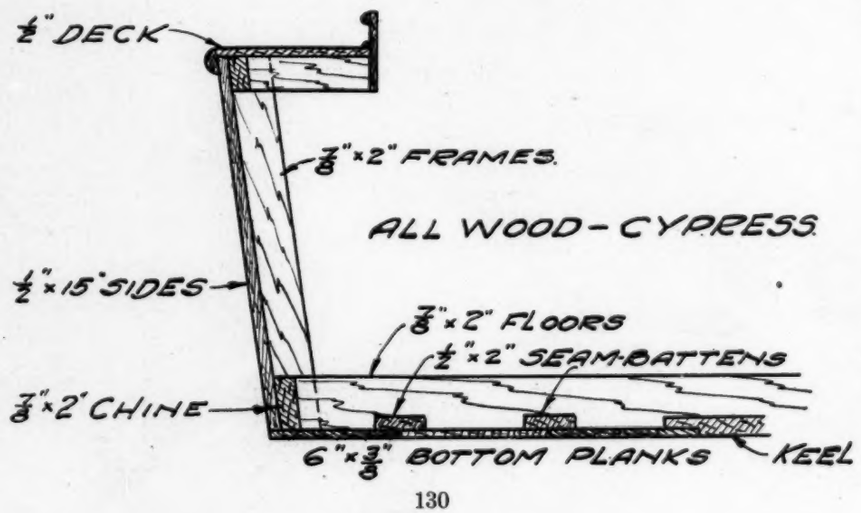
THE CONSTRUCTION OF THE CRAFT IS IN NO WAY COMPLEX—AND BY USING INEXPENSIVE MATERIALS MAY BE BUILT QUICKLY AND CHEAPLY

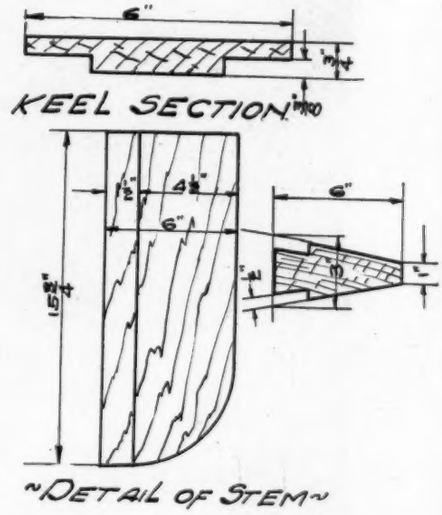
"Moved by that gentleman's appeal for canoe plans I am sending a design to you of a sail boat that may be easily and cheaply built.

"In designing this boat I have tried to accomplish five things, namely: produce a boat that will not cost more than a good paddling canoe, one that may be built without an excess of labor and in about three weeks' spare time; one that possesses more stability than the ordinary sailing canoe and is not addicted to squatting while running before the wind; one that will float even though the cockpit is full of water; one that may be stored in the same size space needed for an ordinary canoe.

"I leave it to YACHTING's readers to say how well I have succeeded."

A TYPICAL ATHWART-SHIP SECTION IS SHOWN BELOW. NOTE THE BATTENS BEHIND THE SEAMS OF THE BOTTOM PLANKS. IF IT IS DIFFICULT TO SECURE WIDE PLANKS FOR THE SIDES TWO MAY BE USED ON EACH SIDE BY FITTING A BATTEN BEHIND THE SEAM





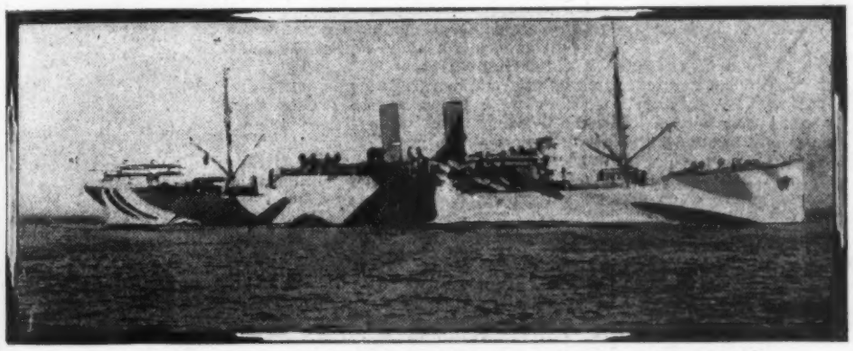
A 16-Foot Sailing Canoe

The amateur designer of boats like the amateur in other departments of creative work, is pretty sure to hit upon a distinctive craft. The very fact that the amateur views the plan wholly from the angle of the yachtsmen and works out his design to conform to his individual experience as a skipper, is quite likely to produce an original boat possessing considerable merit.

Camouflaging Our Ships

The War Has Brought a Distinct Form of Decoration to the Fore—the Fine Art of Painting a Ship to Appear Like Something It Is Not.

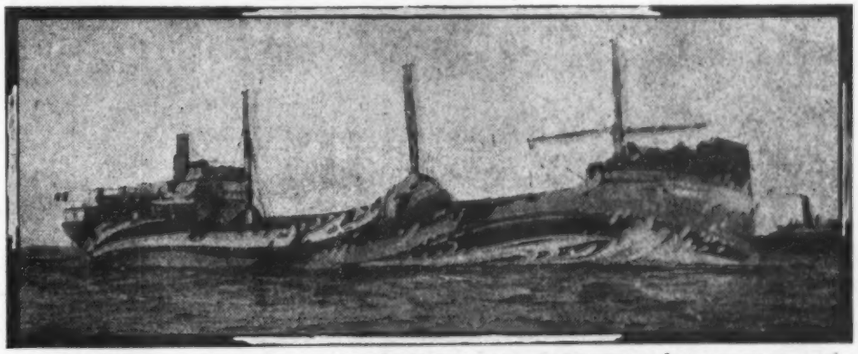
ALTHOUGH this French word has been lately added to our vocabulary, to be accepted with acclaim and immediately put in wide circulation, the art defined as camouflage is by no means a new idea, but has long been known and practiced. The delightful illusion of the scenic beauty of the stage drop and the enthralling loveliness of the spritely damsels who flit before it, is undeniably camouflage. In truth the knack of making something different from what it should normally appear, is an old trick used in many trades and numerous examples may be found in the fine-arts and in real life as well. And camouflage is a necessity, for without its subtle aid the humorist would be hopelessly handicapped in putting his stuff across; the gum-chewing stenographer would very likely revert again to inarticulate speech, and our modern schools of painting and music would have no story to tell at all.



IN THE DAZZLE SYSTEM THE USUAL PERSPECTIVE IS UPSET AND THE U-BOAT COMMANDER IS LIKELY TO MISCALCULATE HIS TORPEDO RANGE

But there is a serious and a scientific side to the subject, and the innovation adopted by the Allies and very recently taken up by us, should be credited to the French, for artillery officers serving under the tri-color first employed camouflage to conceal their heavy guns from the searching eye of the flying Boche. Our British friends have for some time been painting weird and fantastic designs on the hulls of their ships, and the artistic genius of American camoufleurs is now employed to create clever illusions to puzzle and fool the Brutal-Prussian on the sea.

Through the mandate of a stern necessity our Government is sending troops to Europe and we who remain to anxiously scan the news of their arrival, are naturally much interested in what has been done and what precautions have been taken to eliminate, so far as possible, the hazards of their voyage across. Without a department devoted to the systematic study of camouflage, the American camoufleurs are handicapped in their work, because there is no way of making a scientific comparison of the results. By the establishment of the Ship Protective Committee with Admiral Rosseau as Chairman, this work has been greatly stimulated and the bureau has authorized several forms of camouflage which it considers especially valuable for marine use. But the fact that many ship owners are not alert to the importance of camouflaging their ships destined for the war-zone, has prevented in carrying out in fullest measure, the co-operation essential to make the whole plan an unqualified success. As an inducement to obtain greater assistance among shipowners the Federal War Risk Bureau has offered a reduction in rates to vessels using the approved system in combination with smoke boxes, and this plan is expected to have the desired result.



AN EXCELLENT EXAMPLE OF THE LOW VISIBILITY TYPE OF PAINTING *a la* CAMOUFLAGE, IN WHICH CONTRASTING CURVING BANDS EFFECTUALLY BREAK THE OUTLINES OF THE SHIP

The appearance of ocean-going craft in our large harbors shows many different varieties of camouflage. However there are two principal types—the dazzle system and the low-visibility variety. It is the object of the dazzle type to apply the paint in a design which shall make the vessel appear more conspicuous at short range, that the ship may give a false impression of her true form and size. In other words, the dazzle type does not attempt to create an illusion through imitation, but deceive by upsetting the usual perspective of the craft. The low-visibility style of camouflage depends upon presenting the minimum of visibility, and to break up the outlines of hull, deck and masts, and merge them with the sky and water.

During the early days of the war, some few experiments were undertaken by American camoufleurs by painting ships according to their individual conception of what constituted low-visibility. Whether this may or may not be viewed as an error, my shipmates can judge full well as I, but it is significant that all British ships now entering our ports are decorated according to the principles of the dazzle system. The activity of the German U-boat prompted the change. In the earlier days of the war many ships were sunk by shell fire at comparatively long range, but as most ships are now convoyed, the greatest menace is the torpedo, which is discharged at a much shorter distance. It is for this reason that the most effective form of camouflage is on the dazzle order in that it successfully protects the ship by confusing the U-boat commander.

The U. S. Shipping Board has received a considerable number of camouflage systems and while some possess merit, many are too impracticable for marine use. The factors comprising a good camouflage design is dependent upon its value in protecting the ship, the cost of producing the design, and the difficulty involved in the painting. To meet the conditions, a design of the dazzle type must provide the maximum illusion with the minimum difficulty in painting. Prominent among the artists who have contributed successful camouflage designs and whose work is now seen on many ships entering our ports are Messrs. Mackay, Brush, Toch and Herzog.

In carrying out their designs Messrs. Toch and Brush have devised their patterns to confuse and puzzle the range-finder of the enemy without attempting to reduce

Continued on page 147)

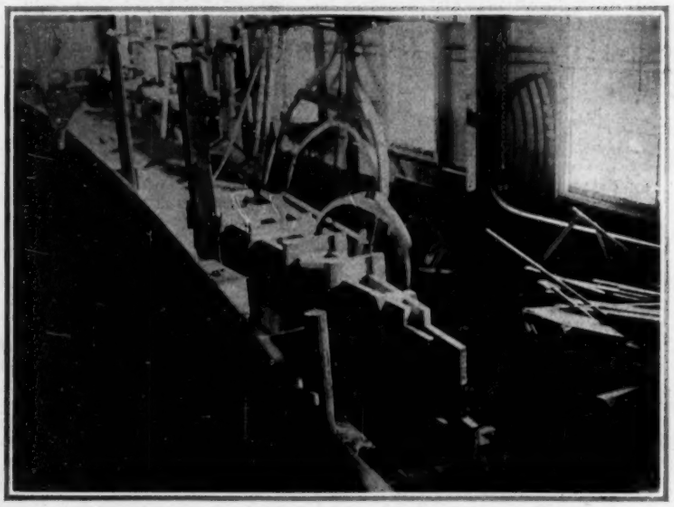
BOAT BUILD
THE EYE OF

PHOTOGRAPHS BY

FEW yachts have their pictures shown in this series of pictures— completed craft, details of construction portray the construction by stages April will show more.

THE OWNER WANTED A YACHT—A STAUNCH ONE, A FAST ONE, SO COMMISSIONED GIELOW & ORR TO PREPARE THE PLANS—THEN GAVE NEVINS OF CITY ISLAND THE TASK OF BUILDING IT, SO ONE OF HIS MEN STARTED THE JOB BY FELLING A STURDY WHITE OAK

FROM THE BOLE THE KEEL WAS SHAPED, ITS RABBET CUT AND MORTICES HEWN FOR THE HEEL OF EACH FRAME. THE KEEL IS THE HEART OF ANY VESSEL FOR UPON IT IS ERECTED THE FLOORS AND FRAMES AND FROM IT, IN KEEL SAILING CRAFT, HANGS THE KEEL OF LEAD



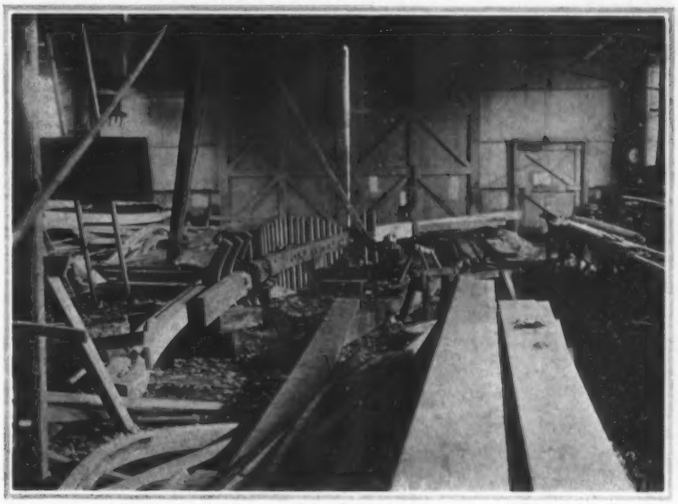
A WOODEN MOULD IS BUILT INTO WHICH MOLTEN LEAD IS POURED SO SHAPING THE HANGING OUTSIDE BALLAST

BRONZE BOLTS HOLD THE LEAD, THE DEADWOOD AND WOODEN KEEL AS ONE, AND MEN WORK HARD TO PLANE THEM FAIR

ING UNDER A CAMERA

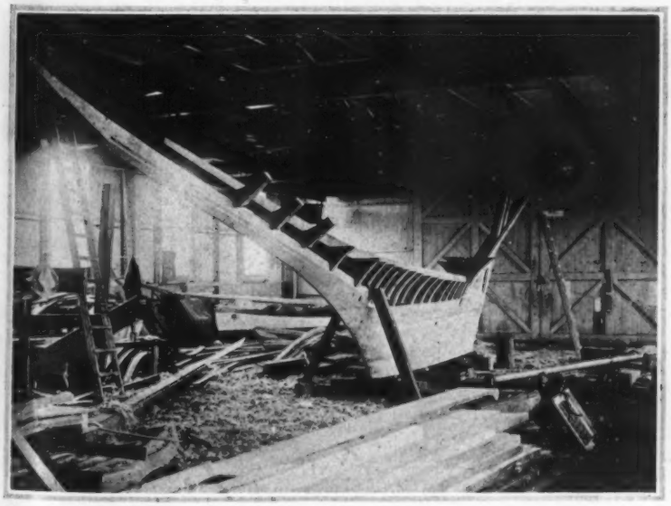
C. M. BROOKS

taken so often as the little schooner from the white oak tree to the wholely are shown. The twelve illustrations up to the completion of the frame.

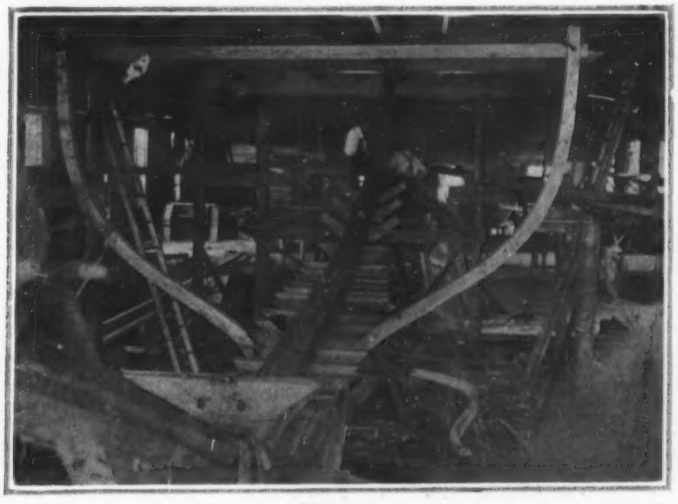


AND THEN STRONG TACKLE IS RIGGED WITH WHICH TO STAND THE COMPLETED BACK-BONE UPON ITS FEET, SO TO SPEAK. STRONG-ARMED MEN ARE NEEDED HERE AND BRAWN COUNTS GREATER THAN SKILL

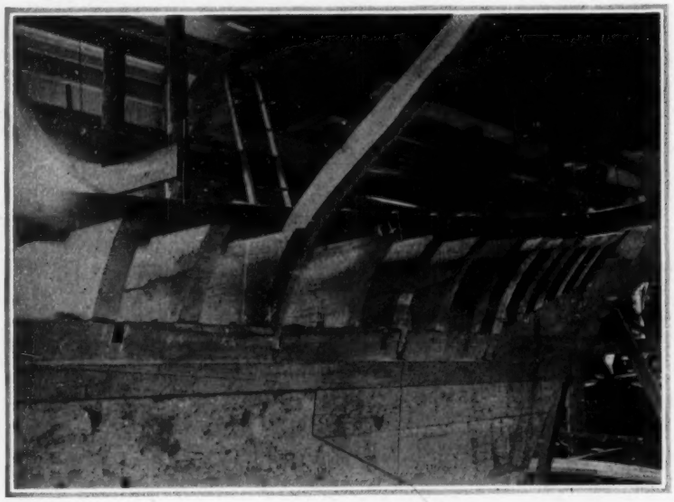
TO FIT THE FLOORS TAKES TIME AND THE SERVICES OF EXPERT WORKMEN FOR EACH IS OF DIFFERENT SHAPE AND OF VARYING BEVEL. BOLTS ARE USED FOR FASTEN-INGS AND A STOUT KEEL-SON EXTENDS ATOP THEM ALL, THUS AUGMENTING THE STRENGTH OF THE ENTIRE FABRIC



SO HERE SHE STANDS BRACED AND STAYED—THE KEEL CONSTRUCTION COMPLETE AND SHAPELY TOO

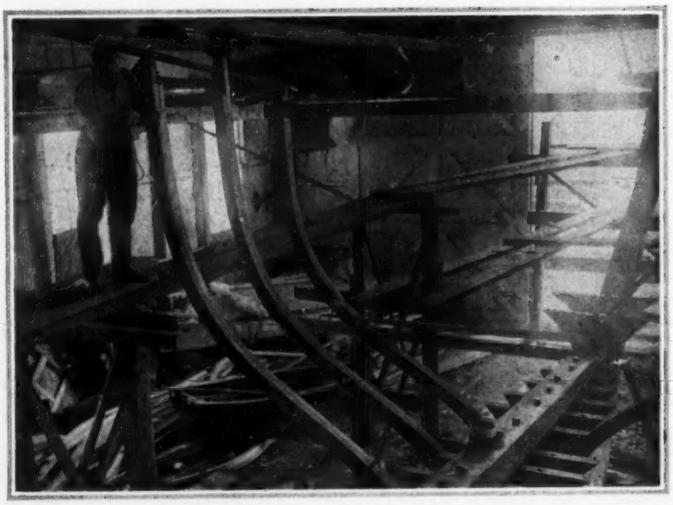


LET NOT THE WORK TARRY HERE—SET UP A PAIR OF MIDSHIP FRAMES TO LEARN THE FORM OF HER CENTER SECTIONS



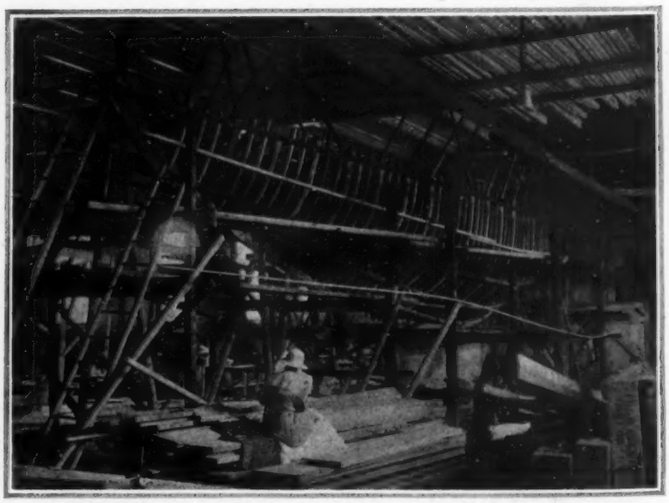
THIS PICTORIAL SERIES IN YACHT CONSTRUCTION WILL BE CONTINUED IN APRIL YACHTING

THE HEEL OF EACH FRAME IS FITTED WELL, MORTISED NEATLY INTO THE KEEL AND SECURELY FASTENED ABAFT EACH FLOOR. SEE, THE CUT FRAMES ARE DOUBLED THUS ADDING TO THEIR STRENGTH, LAMINATING CROSS GRAIN WITH STRAIGHT GRAIN.



SCAFFOLDING IS ERECTED FROM WHICH WORKMEN SQUARE AND PLUMB EACH FRAME. ACCURACY COUNTS HERE AND COUNTS BIG, FOR UNLESS EACH FRAME IS EXACTLY IN PLACE THE FORM OF THE VESSEL WOULD NOT PROVE TRUE AND FAIR.

DAY BY DAY CONSTRUCTION PROGRESSES AND WHEN VISITORS CALL THEY MARVEL AT THE HUGENESS AND CRUDENESS OF THE PARTS, AND 'TIS TRUE, COMPARED WITH MADAME'S TRIM-FITTING BOOTS, THE KEELSON AND FRAMES ARE MONSTER THINGS.



A DAY DAWNS WHEN EVERY FRAME, INCLUDING THE STEAM-BENT ONES, OF WHICH MORE LATER, IS SECURELY IN PLACE AND BATTENS ARE STRETCHED BOTH FORE AND AFT TO PROVE THE FAIRNESS OF THEM ALL.

The Knack of Handling a Shot Gun

How to Pick Out the Best Patterned Bore and How to Use the Gun at the Traps and on Feathered Game

By THE TRAPSHOOTING EDITOR

TO choose a satisfactory gun which shall give a pattern proving the most effective for the kind of shooting indulged in, is of as much importance as the fit of the gunstock. For clay-bird shooting and for wild-fowling the full-choke is decidedly the best, because it throws the charge within a relatively small circle and thus makes a denser pattern. A shotgun is choke-bored by constricting the barrel at the muzzle from 1-25 to 1-50 inch, the amount of tapering depending upon the actual diameter of the barrel. This narrowing at the muzzle forces the shot charge together and prevents the small pellets from spreading out too much. The shotgun is bored in varying degrees of choke, from the full-choke to the plain untapered tube-like cylinder. A comparison of the shooting merits of differently bored guns is based upon the number of pellets which any given gun will shoot into a 30-inch circle at 30 yards or other range selected as the maximum killing zone. From these targets a standard has been compiled showing that the full-choke gun gives 70%, the half-choke 60%, the quarter-choke 50% and the cylinder-bore 30%. In other words, these figures mean that the full-choke throws 70% of the total pellets making up the shot charge into the circle, and the other bores in the percentages enumerated.

THIS is the last of the three trap gun articles. Later on we shall have something to say regarding other phases of shooting which may be enjoyed at our Yacht Clubs.

For the 12-gauge shotgun to meet the requirements in trap and wild-fowl shooting, most practical gunners consider the gun should be capable of throwing not less than 300 pellets, and accordingly he selects a gun with a full-choked bore patterning 300 or better. Owing to the fact that a full-choked 16-gauge shotgun will pattern very close to 275, this gauge may be used for duck shooting with good results. For a many-use gun (and I use this phrase in preference to the *all-around* gun, which for obvious reasons cannot exist) a pattern from 250 to 275 will prove very useful for ducks and upland game, and this arm may be obtained by picking out a half-choked 12-gauge, or by selecting a full-choked 16-gauge. The 20-gauge gives a pattern of about 245 pellets, and this scatters its charge over too large a circle to prove very effective on wild-fowl, although satisfactory on upland game which is usually flushed within 35 yards of the gunner. For upland shooting—quail, partridge, woodcock, etc., a gun with a pattern of 225 to 250 is a splendid weapon, and may be found by selecting a quarter-choked 12-gauge, a half-choked 16-gauge, or a full-choked 20-gauge gun. The gun most satisfactory for small bird or upland shooting is one of the bores commonly called "open choked," and as these are short-range or open-patterns they cannot be depended upon to stop wild-fowl cleanly or prove very effective at ranges exceeding 35 yards.

SHOOTING with both eyes open is one of the important factors in the making of a good shot. Every sportsman possessing a desire to shoot well will speedily improve with practice by observing a few fundamental principles. At the beginning it is very important to hold the gun correctly, and to do this the advanced hand which grips the fore-end, should be extended sufficiently to give a good control over the barrels. The best position for any gunner to assume is his own natural manner of holding the gun, rather than an imitation of the style of another. If all extreme positions are avoided and the arm is held easily and well balanced to give free play to the muscles of the arm, the position will facilitate the quick and accurate handling of the gun.

Some old-time gunners align the barrel and aim by closing one eye and sighting along the rib. This method is a faulty one, because it is unnecessary to use but one eye when both may be kept open to give binocular and clear vision to estimate the distance in covering the target or bird. Dr. Carver who was one of the greatest experts in handling the shotgun, was the first great exponent of binocular shooting, and while but few of us can ever hope to equal his wonderful gunnery, every man, woman and boy can acquire the knack of handling a shotgun quickly and with fair accuracy, with both eyes open. At the first few trials it may appear somewhat difficult to do this, and to aim by merely pointing the gun to cover the desired mark, but a little practice will result in increased proficiency, and the gunner will acquire a quickness which is impossible to gain by sighting in the old way, which encouraged slow and poky shooting.

For fine target work with the rifle the left eye is usually closed to enable the marksman to draw a fine bead, but for snap-shooting with the rifle both eyes are kept open as in handling the shotgun, and aim is taken in practically the same manner. There are, of course, many good shotgun shots who close one eye and keep the master-eye open, but the beginner who has the ambition to become a good wing-shot will achieve the best results by using both eyes. Binocular vision is always clearer, the target more accurately judged by it, and the gunner is not so likely to err in estimating

THERE IS NO REASON AT ALL WHY A WOMAN SHOULD NOT ENJOY THE HEALTHFUL PLEASURES THAT ARE GAINED FROM HANDLING A GUN. THERE IS NOTHING ROUGH ABOUT THIS PHASE OF OUTDOOR SPORT WHICH THE MOST FEMININE OF WOMEN CAN FIND IN ANY WAY OBJECTIONABLE. THE VALUE OF GUNNERY IN TRAINING EYE AND HAND TO WORK IN UNISON IS SPLENDID DISCIPLINE AND A LITTLE SHOOTING WILL SOON DEMONSTRATE ITS WORTH IN SCHOOLING THE NERVES AND DEVELOP POISE NOT SO EASILY OR WELL ACQUIRED IN OTHER SPORTS.

SHOOTING OVER THE WATER IS EASILY ARRANGED AT THE YACHT CLUB AND IT AFFORDS A GOOD BACKGROUND FOR THE SHOOTER, ENABLING HIM TO QUICKLY FIND THE BIRD AND NOT FATIGUING THE EYE

distances and the rapidity of the moving object. In all kinds of shooting, the right eye naturally governs the right shoulder, and vice versa, because habit has educated the eye to do this. It is easy enough to find which is the master eye by simply holding a pencil at arm's length and pointing it at some small distant object with both eyes open. Now when closing the left eye the pencil remains pointing to the object the right controls the vision and is the master-eye. If sighting with the left eye alters the aim, the right eye must be trained by practice until it is the controlling organ or the gun must be used on the left shoulder, which is a hundred times more difficult to accomplish. This modern manner of handling the gun for wing or snap shooting will enable the novice to shoot in good form and continued practice will result in increasing proficiency.

THE knack of hitting a flying target is largely a matter of judgment, for allowence must be made for the swiftness of the flight and the distance from shooter to the target. This means that the shooter must calculate the speed of the flying object and allow the approximate time the charge will take to reach its mark. In making a quick snap-shot at a rapidly moving object, the gun may be brought to directly cover the mark and the trigger pressed as quickly as possible, or the barrel may cover the mark and swung ahead, and the shot sent at the point where the swiftly moving object will appear when the shot traverses its distance. A snap-shot is only effective when the bird or target is flying straight-away or quartering. The gunner fires point-blank at the target and the shot must be made so quickly that only a light responsive trigger and a fast man back of the gun, can hope to win many hits. This is the common idea of snap shooting, but a better and less uncertain way of making this shot, is to throw up the barrel below the bird and then rapidly swing to the estimated elevation ahead of it and endeavor to throw the shot where the line of aim and the flight of bird or target intersect.

For upland bird shooting which includes quail, woodcock and partridge in the brush, the quick snap-shot must often be used regardless of the chances of a miss, because to delay even a second will suffice to lose the bird. When the bird is flushed near the gunner no lead or elevation allowance is required for the shot is thrown directly at the object.

The best possible way of using the gun at all angles and at varying distances within its killing zone, is by means of the rapid swing. This style of shooting is made by throwing up the gun behind the bird or target, and without checking the movement of the gun, swing it rapidly ahead and press the trigger without hesitation. To achieve success in this style of shooting the elevation of the gun must exactly coincide with the flight of the bird, and the gun must therefore follow the object. If the gun is swung about three times as fast as the object is traveling, sufficient allowance for the time needed to press the trigger and throw the shot at the determined point will be made.

FOR wild-fowling the duck shooter has plenty of time to deliberately swing the gun to cover the bird and then shove it ahead to give the requisite lead. This slow type of wing shooting is made possible by the fact that the wild fowler usually sees his birds approaching and they remain within range much longer. This deliberate method is much too slow for upland birds and for trapshooting, and the man who desires to handle his gun well should practice the rapid swing style, because it is the most accurate manner of cutting down a fast flying bird or target.

Snap and wing shooting is at once the most fascinating and difficult style of gunnery, and the object which the shooter should strive for is to train eye, hand and arm to work together. A practical shotgun education is most thoroughly acquired by shooting at the traps of some club. However any individual who cannot avail himself of the club traps can secure equally good practice by using one of the inexpensive hand-traps which projects the regulation clay targets. There are several makes of these spring traps on the market and trap and a supply of clay targets may be purchased for a small sum.

THE FUN OF SHOOTING LIES IN ITS ACTION AND THE KEEN COMPETITION MET WITH AT THE REGULAR CLUB SHOOT PROMOTES ZEST AND GOOD FELLOWSHIP

THE SANDDUNE BREEZE

JACK MERRIWEATHER, Ed.

VOL. XI, No. 3 SATURDAY MARCH 2, 1918 PRICE 3 CENTS

FIRE DEVOURS DIBBLES BOAT SHOP

LOCAL INDUSTRY BURNT BIZNESS A TOTAL LOSS

The quiet lovin' Sanddunites was waked up last night by a lurid glow in the heavens. Investigation found Dave Dibble's boat shop had ketched fire. Ephriam Kelsey seen the blaze furst and he wrung the church bell for help. Most of the men folks was a snorin' off a session held a few hours before in Hiram Snow's barn. We wus all late in comin' but willing hands turned out to watch the flames devour the shack.

A heavy no'r-easter wus blowin' and the hot fire made it impossable to git near enough to pour water on the raging flames, which lit up the sky for miles herabouts.

The shanty was burnt to the ground, destroying 2 dories, 1 lobster car, 3 pr. oars, 5 gal. paint, 31 fathoms of moorin' cable.

The whole town sympathizes with Dave but the munificent offer of Sam Sellers to donate his new commodus hen coop will help Dave to begin bizness ernew.

We are mighty sorry, Dave, but yer got to grin and bare it.

Editor.

EDITORIAL

There is evidence aplenty aroun the town that tells us a belayted Spring is nigh here. The robins has come back to chirp there cheerful songs and the blue birds and the swallers has arrived to herald the welcom tidins.

We is all mighty glad to see Miss Springtime and the whol town is a wakin' up and findin' its about time to git out of doors and patch up things about the place.

The farmers hereabouts are gitting busy to. Deacon Jabez Longacres has pulled off his furst hatch. The Deacon is a jim dandy hen fanceer and put 150 Leghorn eggs in his inqubator and took out 130 chickens which is a purty good avrage.

Things about the harbor is pickin' up also and Perry Winkler led the proseshun and past the office with a push cart loded with paint and boat fittings. Perry is always the furst man out, but from all indikashuns most of the other sea dogs will be follerin him purty close.

Many of the summer folks has written in to have there houses overhauled and several new boats is to be added to the fleet moored in the harbor this summer. Dave Dibble is layin' the keel for a 30 ft. Sloop under a shed where his old shop burnt down and Ham Marlin is busy fillin orders for seven dories and two power boats.

These are some of the many indakashuns that summer is a comin' along purty soon now. We all has opinions of our own, but kin purty unanimus agree on the weather. Come along Fair and Gentle Summer!

CAP. JERRY JONES AGEN

Cap Jerry reports the frost fish is bitin' smartly offen Clam Shell Reef. With the help of Mrs. Jones and a small boy and his shephard dog Skip, Cap ketched 70 lbs. fish in 70 min. which is beatin' the record by 65 lbs.

Cap your a durned lyer. Must have gone fishin' with the brown jug agen.—Editor.

SOCIETY NOTES

Gwendolyn Bucksmany plans to put an addishon on her bungalo and Andrew Dee has got the job. Andy is handy with tools and we no the job will be did to the Queen's taste.

Perry Winkler the veteran lobster man of Sanddune has jest got a new Sterling ingine for his boat, the Sarah Ann. We expect Perry will travel some when the potting season opens.

Mazie Oakum of Boston, who is the most popular young lady in the summer colony has been took down with a fever. Mr. Henry Tarr Oakum her father, told us the bad news while stoppin' off yisterday to look at his property. All Mazie's friends hereabouts hope she will git well soon.

The ladies of the Knitting Circle will give a Knitting Tea in the Town Hall on Tuesday, March 12. As this is meatless day, only patriotic dishes will be sirved for 25 cents. A good crowd will help along the good work in good shape.

Mr. Frederick Washington Goldbright who owns the power racer Beatemtoit, contemplates another fast craft for the comin' season. Mr. Arthur Goodenough Longgreen of Crownest Lodge, is also going to buy a new racing boat. Mr. Longgreen's cruiser Jouncer II, will be also out in the bay when the season begins.

Buy a Liberty Bond and help us lick them Prussians.

The heavy sea lashed to fury by the no'r-east gale, yisterday washed the boat house of Mr. Asquiller Q. Miller off its moorings on Horshoe Beach. The buildin drifted out and grounded on Clam Shell Reef where the breakers pounded it to pieces. We herd the buildin' wernt insured and was a total loss.

A party of movin' picture folks has come to town to take pictures for the story, A Sea Green Smile. The party is boardin' at Deacon Jabez Longacres.

CONGRATULATIONS SPUD!

Spud Spenser is the champeon clam digger of these parts. Yisterday he was down to the flats and digged a record haul of 3 bu. hard shell longs, 1 pk. rounds, 1 qt. scallops. Spud says the tide was fine for diggin' after the no'r-easter, and allows his luck was due to the weather.

Spud always was a modest cuss.

Editor.

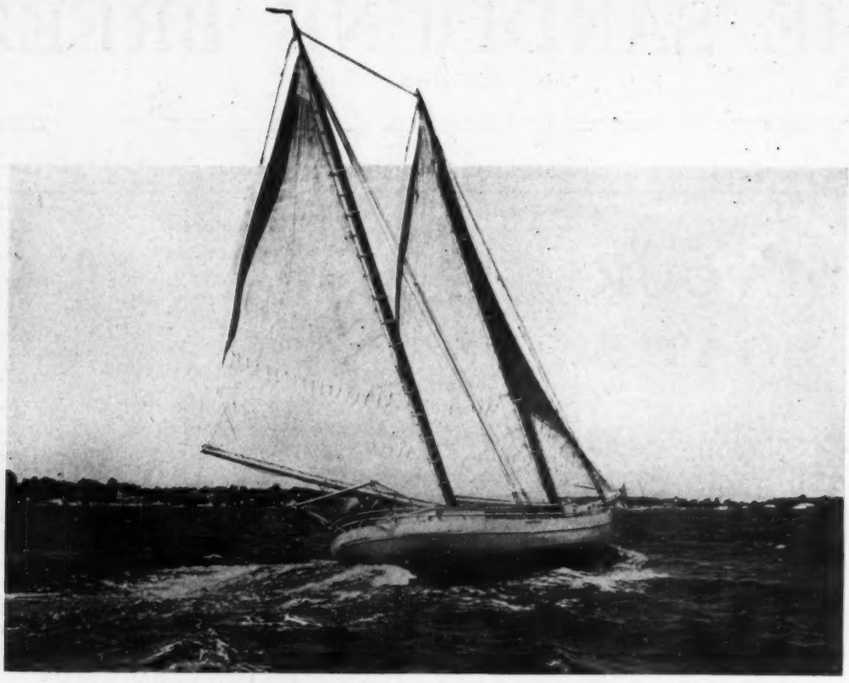
CAP. JERRY JONES VISITS NEW YORK

The purtiest picture in the world to a sea dog is a boat. Cap. Jerry Jones says it to be so and when it comes to boats Cap is all there with bells on. Cap has jest come back from a visit to New York, where he was the honored guest of one of the editor folks who wrights YACHTING magazine.

Cap reports that the city is hustling write along in spite of the war and the coal season. He found the streets and the subways was filled with peoples who seemd to be goin' the same way as he wus, only a little faster. Cap visited the Woolworth buildin', attended to the theatre and saw a caberay not to menshion the Motor Boat Show which he also wus in attendance.

Cap knows boats and he comes back with his pea jacket full of catalogs. "Big boats and little boats, big ingines and little ingines, and a-plenty o' dories to gladden the heart of a down-east fisherman like o' me" is his very words, and they is true ones no doubt. We all think mighty well of Cap hereabouts, but we can't believe the old cuss when he talks about fishin' no more than we can any man.

Pant Sale now on at Clark's Dry Goods Emporium. Never Rips, Strong and Stout, and other good makes at a reduckshun for men. Adv.



THE BUGEYE OF THE OYSTER FLEET IS A FAST CRAFT AND SHOWS AS GOOD SPEED UNDER SAIL AS MANY YACHTS

The Chesapeake Bay Bugeye

By STUART STEVENS SCOTT

(Photos by Author)

THE Chesapeake Bay bugeye is the big brother to the Chesapeake Bay canoe; in fact just where the canoe ends and the bugeye begins is, in sizes from 35 feet to 45 feet, a matter of decking and the substituting of fixed masts for removable ones.

As the canoe is in a class to itself, so is the bugeye. The bugeye is merely an evolution of the canoe and the true type is a log craft built up. In recent years, however, the scarcity of the proper kind of pine logs has made it necessary to adopt the frame and plank construction although the model is retained. There are, however, many of the log types of bugeyes afloat and they will be for many years to come inasmuch as they are practically indestructible. I have in mind one bugeye, the Emma, that has had no less than three new decks, any number of masts and scores of new suits of sails, tons of ropes and yet has never been touched below the waterline.

The reason for this is that she has been regularly oiled with linseed oil and turpentine until her bottom logs, which are 18 inches thick, are pretty well saturated. She will not rot and there is too much to wear out.

In the construction of the log bugeye the procedure is pretty much the same as for the canoe, save that the former craft are usually built by men who do marine architecture as a side line, whereas the bugeye builder is generally a professional and has a small yard.

There are dozens of these little yards scattered throughout tidewater Maryland and Virginia, located upon small creeks and many of them are so far from the larger settlements that they have never been heard of, save by the boatmen.

But it isn't the size of the yard or its equipment that counts, it's the ability to turn out a strong, serviceable and speedy boat that counts, whether the builder has only an ax, and adz and plane, or whether he has the finest wood turning machinery.

Take the average Chesapeake Bay bugeye and note her as you see her go past, for she will pass the average sailing yacht in any kind of a breeze. She is long and lean, both ends are sharp, her masts rake aft sharply and she goes to windward like a fish. You will not see much of a crew, rarely more than two men and a boy, usually a man and a boy on the boats of less than 50 feet, and yet, loaded or light, she moves silently and swiftly.

Most craft are laid down from lines but not the bugeye. The shipyard man first makes a model, the old way, with his knife, smooths it off a bit with sand paper and passes it to the owner. The chances are that the owner knows pretty much what he wants, and after he has made what changes he sees fit, such as a little more flare to the bow or modified the stern, it is passed back to the builder with instructions to "go ahead."

If the boat is to be of logs, and to be 60 or 70 feet long, the builder then waits until February, just before the sap begins to rise, and goes into the woods. It's a pretty clever bit of woodcraft to pick out 18 or 20 suitable trees, and with standing timber rather scarce the job is becoming more and more difficult, even in the lower counties of Maryland which are rapidly being settled and cleared.

After the trees are felled the preliminary work of shaping them is done. The tree that will make the keel, or center "chunk" is squared to about 20 inches while the others are cut so they will "lap up." The "chunks" are then left to season until warm weather, the latter part of June, and are then hauled to the builder's yard.

The center "chunk" is then dressed with a plane until its two sides are smooth and to it are fitted the "next-to-center" "chunks" and the fastenings are with dowels. In the early days the dowels were made of wood, later iron was adopted and this material is still used. The iron rods are not galvanized, for, while they rust, it is the rusting that makes them hold all the more firmly. As a matter of fact the rusting is hardly noticeable. I once saw a 50-year-old bugeye that had been wrecked and some fishermen were sawing up the hull for firewood. One of the dowels was sawed out and it was remarked that the iron was only surface rusted showing that imbedded

in the wood the water, or rather the dampness, does not have much effect. This, no doubt, is due to the logs having been thoroughly oiled.

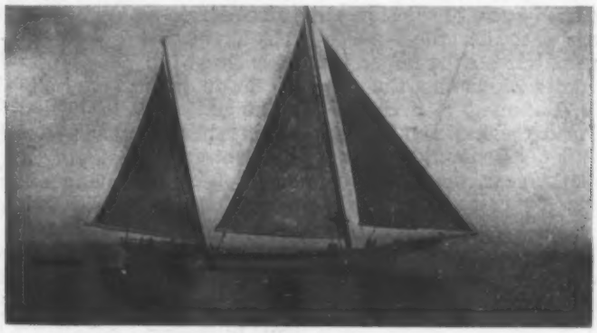
For a 60-foot or 70-foot bugeye, 13 logs are required; six on each side of the center log, or "chunk." This gives the bottom and the bilge, and from there up regular planking is used, this planking being held by frames which are bolted to the logs. From this point on the construction is just the same as in any ordinary craft except that the bugeye has no rail, a "log" taking its place. Aft, a taffrail is carried for the safety of the crew, but even this rail is low.

As a matter of fact the bugeye is a low-sided craft, anyhow; even the larger ones, for there are some 90 feet on deck and capable of carrying 1,800 bushels of oysters, have much less freeboard than a schooner of the same dimensions. Speaking of size, the Chesapeake Bay boatman never refers to a vessel as being so many feet long. It is always the number of bushels of oysters, whether it be a 20-bushel canoe or a 1,000-bushel bugeye, schooner or pungy.

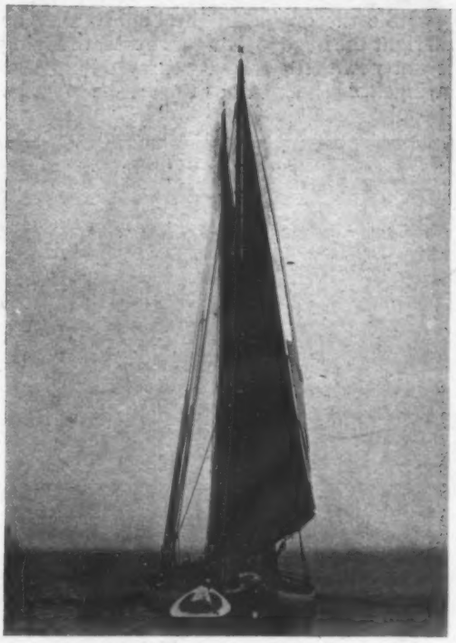
The rigging of a bugeye is the simplest possible. Usually the masts are tall and rake so far aft that it gives to the leg o'mutton sails, the same advantage that a straight mast and a high-peaked gaff would give to a fore and aft sail and this, it is generally believed, is the secret of the speed of the bugeye. The rig of the bugeye is distinctive for, with its two leg o'mutton sails and jib, it is always noticeable in a fleet of sailing craft. The jib always has a "bonnet" in it and this is taken out by the release of one knot, the bonnet being equal to a single reef. With the bonnet out of the jib and a double-reefed mainsail, the average bugeye will go to windward in a 45-mile-an-hour breeze, and that is saying a good deal for its weatherly qualities.

As a general proposition, however, it is rarely that one sees a bugeye shortened to such sail, because the average owner is wary of taking chances of losing gear when good harbors are always within easy sailing. In the winter, when the boats are running oysters and when making market means big money, it is different. Then sail is cracked on regardless and there is just as keen sailing as there ever has been or will be among the Gloucester fishermen who are famed for their wild sailing.

I have crossed the Chesapeake Bay in the dead of winter and with the spray freezing so quick that every time we went about it was necessary to send a man forward to chop the ice from the jib block on the deck traveler. Several times during those few hours of night, so black that one could scarce see the end of the bowsprit, solid water came aft to the wheel and although the little bugeye was down to close reefed mainsail with the bonnet out of the jib, she went to windward leg after leg. True she was pretty well laden with oysters, which was just the kind of ballast for a night like that, but then there was a 70-foot pungy, three-quarters loaded, that started with us and had to return because of the wind and sea.



THE RIG OF THE BUGEYE IS A SIMPLE ONE AND TO THE TALL RAKING MASTS WITH THE LEG O' MUTTON SAILS IS ATTRIBUTED THE SPEED FOR WHICH THIS CHESAPEAKE-BAY BOAT IS FAMOUS. THE JIB IS ALWAYS PROVIDED WITH A BONNET WHICH IS SHAKEN OUT BY RELEASING A SINGLE KNOT. WITH THE BONNET OUT, THE BUGEYE SLIPS UP TO WINDWARD WITH A SURPRISING SPEED AND THE WEATHERLY QUALITIES OF THIS UNIQUE CRAFT ARE WELL KNOWN

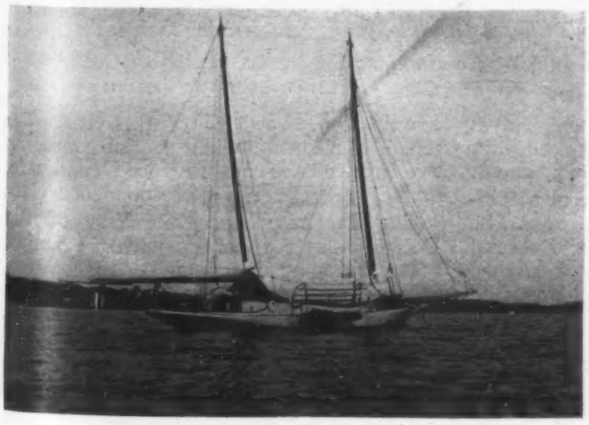


A CHARACTERISTIC FEATURE OF THE BUGEYE IS THE POINTED STERN—THE EVOLUTION OF THE NARROW CANOE INCORPORATED IN BUILDING THESE LARGER CRAFT

All bugeyes are centerboard craft, in fact, owing to their shallow draft they are the more valuable especially for running into the many estuaries of the bay. There is a bit of difference in rig, however, inasmuch as some are rigged with fore and aft, fore and mainsails while some have square-headed, or gaff, foresails. There are a couple of flying jib bugeyes, 90-footers, but they are frame craft. The largest log bugeye on the Chesapeake is the Mollie V. Leonard and she is also regarded as the fastest. She is a rather husky vessel, too, being 82 feet long, 22 feet beam and of 59 gross tons. She was built in 1904.

There is some objection to the bugeye on account of the sharp stern giving no deck room so that a great many of these craft have been built out above the waterline. The Margaret A. Travers, a 72-footer, for example, has a round stern which gives more deck room, but this does not detract from her sailing qualities.

In the spring of 1912 the Leonard and the Travers sailed a race under the auspices of the Cambridge, Md., Yacht Club. The course was 35 miles and when the boats started there was a 20-knot breeze. Both boats were well ballasted and each had fully a score of men on board. It was a race such as had never before been seen on the Chesapeake for both crews had wagered their last dollar on the result. For more than 15 miles the pair sailed almost side by side and not until the wind lightened did the Leonard draw away, crossing the finish line just an hour and five minutes in the lead. This lead was gained because the Leonard came home on a flaw, while the Travers was becalmed.



THE MANY GOOD QUALITIES OF THE BUGEYE ARE APPRECIATED BY YACHTSMEN AND MANY PLEASURE CRAFT ARE BUILT ALONG THE GRACEFUL LINES OF THIS TYPE—THAT IS THE CHARACTERISTIC RIG HAS BEEN OFTEN ADOPTED BUT THE BOW AND STERN HAVE BEEN ALTERED TO CONFORM TO MODERN DESIGN. ONE OF THESE YACHTS IS SHOWN IN THE ILLUSTRATION AND BOATS LIKE THE JAVELIN HAVE PROVEN VERY DESIRABLE YACHTS FOR CRUISING, AS THE SIMPLE RIG ENABLES A 60 OR 70-FOOT BOAT TO BE EASILY HANDLED BY A BOY AND MAN

The race, instead of settling which boat was the fastest, brought out a lively controversy and there will be no peace in Cambridge until there is another match.

One of the most prominent features about the bugeye not seen on any other type of craft is the rudder. This is hung at the extreme end of the stern, like a rudder on a catboat. On the smaller craft a tiller is used but on the larger vessels, such as the James E. Kirwan, the steering gear on deck is connected by rods to the rudder head. While the strain on the rudder rods is heavy, it is overcome mostly by the mere strength of the gear, the rods and rudder iron being made of extra heavy iron.

What tends to make the bugeye so popular is that it is a most economical craft to operate, requiring but a man and a boy, even for a 50-footer. Even vessels like the Travers only carry three men while the Leonard carries but three men and a boy, the latter being the cook.

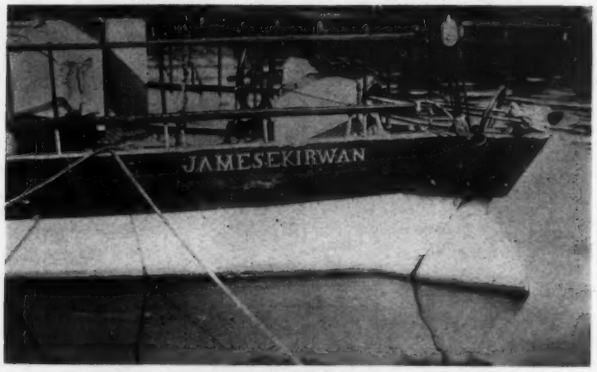
Numbers of yachtsmen have adopted the bugeye rig although they have departed somewhat from the hull, especially in characteristic features of the bow and stern. One of the yachts of bugeye type that is well known in every port on the Chesapeake is the Javelin, owned by former Commodore W. W. Grier, of the Capital Yacht Club, of Washington. She is 50 feet over all, and Mr. Grier with one hand forward has cruised all over the bay. A few years ago Mr. Francis W. McAllister, of the Baltimore Yacht Club, had a 70-foot bugeye built and he only carried one paid hand yet he frequently went on long trips.

Of late years the gasoline engine has been playing an important part in the bugeye, many of them being converted into auxiliaries while those that have been built during the past few years have been built as auxiliaries. Then, too, many of the sailing bugeyes carry power yawls and, on calm days, it is a common sight to see the little boats kicking the larger craft along.

While the engine in the bugeye may be all right the bugeye that goes oyster dredging is not permitted to even carry one and so stringent is the law that the engine must be removed; it was thought that taking off the propeller might suffice, but it didn't.

It is a pretty sight to see two or three score of bugeyes lazily cruising on the oyster grounds. When there is a bit of wind the sails are either reefed or slacked to prevent too much headway, which might break the dredge lines, so that they look a little slovenly. The minute the "jag," as the cargo is called, is in, it is "straighten up and away" and then ensues the racing for the market.

If you ever visit the Chesapeake Bay, and want to study the bugeye at close range, go to Crisfield, a thriving little town on Tangier Sound. This town today is the largest sailing port in the United States. In other words there are more sailing craft that have Crisfield for their home port, and there the bugeyes may be seen by the dozens at any time of the year. There also you will find hundreds of canoes, to say nothing of sloops, schooners and pungies, the latter being a type that is also peculiar to the Chesapeake and of which I shall write later.



THE STERN IS A DISTINCTIVE FEATURE WITH ITS OUTSIDE RUDDER—PROVIDED WITH A TILLER IN MOST SMALL CRAFT BUT IN LARGER BOATS THE STEERING WHEEL IS COUPLED UP BY MEANS OF IRON RODS

Aids Enlisted Men to Enter Annapolis

Through a preparatory course offered by the navigation school of the Seamen's Church Institute, young men desiring to enter the U. S. Naval Academy at Annapolis are coached for the examinations

SPECIAL arrangements to aid the enlisted men of the United States Navy to prepare for examinations to enter Annapolis have been made by the Navigation School of the Seamen's Church Institute, of No. 25 South Street, New York City, according to the announcement made recently by the Superintendent of the Institute, the Rev. Dr. Archibald R. Mansfield.

The naval regulations provide that youths who are less than twenty years of age and have been for a year in the United States Navy may ask permission to take the examination for entrance to the Naval Academy. Of those who pass, the first one hundred are eligible for appointment.

Applicants must have in general attainments the equivalent of what would be required for the beginning of the second year in the average high school course. The Navigation School of the Institute prepares students along technical lines for the taking of the examinations. It offers to give information concerning text books, to furnish the books at a merely nominal profit, and to form classes in view of the next examination, April 15 of this year. The school is also organizing special courses of two weeks each for advanced candidates and arranging for a correspondence class.

The Institute since the first of last December in cooperation with the United States Shipping Board has been instructing sailors in navigation, so that they may take their examinations for officers' certificates. The great merchant fleet which is being built will require many captains and other officers. Of the eighty-seven who entered

(Continued on page 152)

Good Glue Is Very Like a Good Friend For Both Hold Fast in Time of Need

IN the old days when the building of wooden ships was ranked one of our largest and most important industries, almost every town and village situated along the deeper tidal rivers and on the sea coast, boasted its ship yard. Many full rigged ships two and three hundred feet long were built in the largest yards while schooners and a large number of smaller crafts were also constructed. At this time when the American flag was seen at the mast head of a large merchant fleet, a vessel's sides were stoutly planked and the seams were caulked with oakum. This was tightly packed in the seams by means of a wedge-shaped caulking iron and a mallet. After the oakum was driven home the seams were filled with melted tar or pitch to make the whole water-tight. The seams in the deck planking were treated in the same manner.

As the age of machinery and steam appeared to supplant the square rigged sailing craft, the old ship yards were gradually abandoned and most of them converted to other manufacturing uses. Only a comparatively few of the largest yards continued to keep the industry alive by combining the construction of coasting ships with steam driven vessels, supplemented by launching a few pleasure craft. Later on the younger generation again turned to the sea for recreation and the invention of the naphtha engine and the gasolene motor created an increasing interest and demand for pleasure craft, and this phase of ship building is to-day an important and fast developing industry.

To caulk a boat in the old days was something of a smeary job for it was necessary to have a kettle of tar or pitch boiling over a fire, while the planking was filled by swabbing the hot resinous liquid in the seams. For filling the seams in the deck a funnel-shaped ladle known as a pitch-payer was used. It was also a common practice among boatmen to coat the vessel below the water line with tar to make the craft tight and to protect the wood from worms and fouling. While many of the old sailing crafts are still caulked and payed with oakum, pitch and tar, the introduction of a new compound for doing this work more easily, cleanly and thoroughly, has entirely supplanted the tar brush and mop and the pitch payer on many commercial craft as well as upon the larger yachts.

The story of the discovery and perfectment of Jeffery's Marine Glue is very similar to the introduction of other meritorious articles, inasmuch as success was only achieved through repeated experiments and after many failures. It was in the year 1849 while the late Alfred Jeffery was making experiments to produce a good anti-fouling paint that he discovered the material which he called Marine Glue. The new composition was regarded as a valuable material by scientific men and ship builders and after standing all tests the inventor offered his product to the British Admiralty and to the public as well as volunteering to personally instruct its uses in the Royal Dockyards. After the Government had subjected Jeffery's Glue to many experiments and trials it was approved as one of the most important discoveries in ship-building that had been made in modern times.

ALFRED JEFFERY NOT ONLY INTRODUCED THE WIDELY USED MARINE GLUE WHICH BEARS HIS NAME, BUT INVENTED THE FIRST SUCCESSFUL CONICAL PROJECTILE FOR RIFLED CANNON

For several years Mr. Jeffery struggled to overcome the prejudices of the times and gave up his profession as an artist to establish his invention. The Admiralty had accepted it, but no compensation was received by the inventor until the matter was finally brought before the House of Commons in 1847 by Capt. Perchell of the Royal Navy who spoke in its favor and called attention to its success when applied to the decks of several ships sent to Africa. As he mentioned in his speech its use avoided the necessity of having decks caulked every two years, and if all the ships in the navy used the Marine Glue it would in his opinion, effect a saving of some $250,000 a year. But despite the abundant evidence attesting its value, the Government machinery moved so slowly that Mr. Jeffery failed to gain but a small royalty for superintending its manufacture.

At the Exhibition held in 1851 Mr. Jeffery won further recognition and the Prize Medal was awarded him. In 1857 the Indian Mutiny cut off the supply of shellac (an important ingredient in the glue) and so increased its cost that the Admiralty agreed with the inventor's suggestion to supply a cheaper article composed of Marine-glue and pitch in equal proportions. This product gave so much satisfaction that it was adopted for paying all deck seams on navy ships and is today exclusively used and specified in all Government contracts.

The numerous purposes for which this glue is used are worthy of mention. It has been successfully utilized for hospital and barracks floors, being clean and a disinfectant, and also for making tight joints in iron gutters, iron bridges, pontoon boats, etc. The British Lifeboat Institution has used it extensively for many years to make air-tight compartments and bulkheads, and in combination with calico or canvas the Marine-glue is much used for water-proofing packing cases, car tops, etc. Jeffery's Patent Marine-glue is now made in twelve different grades which makes its use of very wide application.

No. 1 is the standard Marine Yacht Glue of extra quality, which is specified by all first class designers and largely used by prominent builders for paying the deck seams of sailing and power yachts.

No. 2 is the Marine Ship Glue of first quality. This grade is used for deck and hull seams of the largest ships and is the grade used by the United States, British, French, Japanese, Russian and other navies.

No. 3 is a Special Navy Glue in general use for deck and hull seams of all classes of vessels.

No. 4 is known as Mercantile Marine Glue, intended for rough work.

No. 5 is a Marine Glue Pitch, largely used on steel work and for backing armor plates.

No. 6 a hard quality of Marine Glue,

(Continued on page 152)

The Astronomical Triangle

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THIS article is intended for the convenience of those who are studying the subject of navigation, and may prove useful as supplementing in some respects the books of Mr. Henderson and Mr. Hastings on the Elements of Navigation. It will have accomplished its purpose if the writer has succeeded in making clear the simplicity of that part of navigation which involves the deductions to be obtained from observed altitudes of the sun and stars.

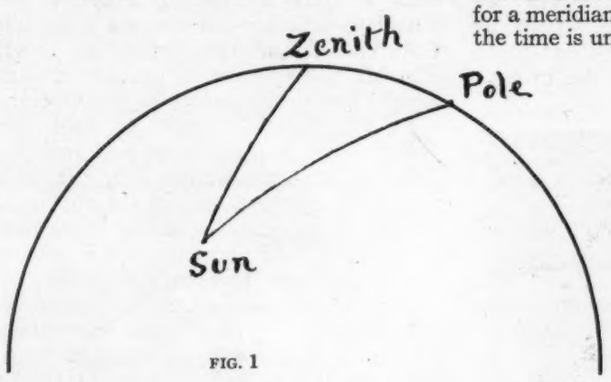


FIG. 1

The student is apt to be bewildered by the examination of the different helps to navigation, in which he finds apparently a considerable variety of spherical triangles and an even greater variety of the equations by which they are solved.

It is not, of course, essential that the navigator have any knowledge of spherical trigonometry, nor any greater knowledge of logarithms than the mere ability to work the tables. Nevertheless, it is always an advantage to know a little more than is actually used. Captain Lecky in his *Wrinkles* strongly advises this also.

The student attempting to follow this advice is apt to be met with an initial discouragement, his only choice being to study laboriously the whole of spherical trigonometry and to add to that the study of some parts of a practical astronomy, and possibly to deduce equations from worked sample examples.

Even if the student is willing to go to this trouble, it would seem to be worth while for him to start with the information herein contained.

There are but three necessary steps preliminary to solving such problems of navigation as require the observation of a heavenly body. These are (1) to observe its altitude with the sextant, whether sun or star; (2) to note the Greenwich mean time at the moment of observation, furnished actually by a watch corrected for the chronometer time, and (3) to observe the apparent bearing of the sun or star, as furnished by the ship's compass.

The observation of the bearing is only for the purpose of correcting the error of the compass. The true bearing is obtainable by calculation.

For purposes of latitude and longitude, the time and the altitude alone are needed, and for a meridian observation for latitude, even the time is unnecessary.

Every navigator should carry in his mind a mental picture of what has well been called the "astronomical triangle." Fig. 1. It is quite impossible to forget the location of its points. The zenith, as every one knows, is directly over head and is 90° measured on a great circle from all points of the horizon. The pole is so closely identified with the Pole Star in the minds of many, that it has a natural actuality of position in the heavens which might otherwise be wanting. It is the only point in the heavens which has no apparent daily motion, and about which the stars and the sun and moon daily revolve, at least in appearance. The third point in the triangle is the sun or star observed.

For the purpose of this discussion the initial letter of each of these points will be used in the diagram, viz.: "Z" for zenith, "P" for pole and "S" for sun or star.

Each of the three sides of this triangle is as easy to remember and as significant as the three points, the sides all being arcs of great circles. That is to say: the distance between the zenith and the pole is the complement of the latitude of the observer and is known briefly as the "co-latitude." In other words, it is 90° minus Latitude. At the equator the pole is on the horizon, and as one moves away from the equator the pole ascends into the heavens until at the north pole of the earth the pole in the heavens is directly overhead.

The side between the sun or star and the zenith may be known as "z. d.," i. e. the zenith distance. It is also the co-altitude, viz., 90° minus altitude.

The remaining side, i. e. from the sun or star to the pole, is the polar distance, known as "p. d.," and is equal to 90° plus or minus the declination of the observed body, as the declination is northerly or southerly.

For the north pole and with a southerly declination, the addition should be made. On the contrary, the higher the declination, if it is positive, the smaller the distance between the star and the pole.

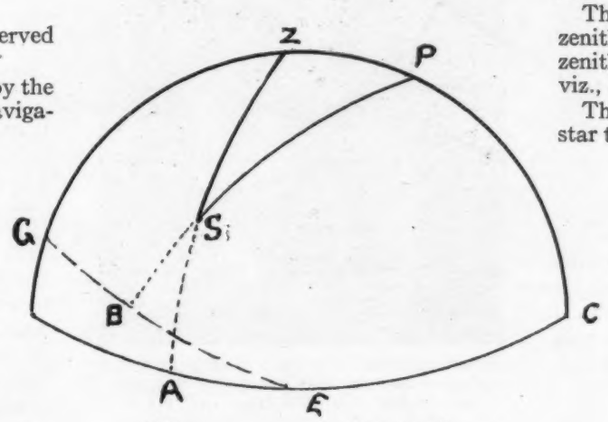


FIG. 2

G B E = THE CELESTIAL EQUATOR

S A = THE CORRECTED ALTITUDE OF SUN OR STAR

Z S = ZENITH DISTANCE OF SUN OR STAR = 90° ALTITUDE

Z P = 90° LATITUDE OF OBSERVER = CO LATITUDE

B S = DECLINATION

S P = POLAR DISTANCE

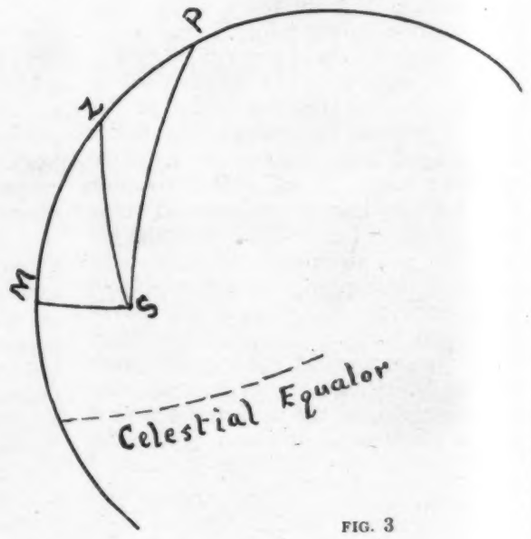


FIG. 3

The three sides, therefore, are such as should be readily called to mind.

Of the three angles, the one at the sun or star is known as a position angle by navigators. The angle at the pole measures the hour angle of the observed body, which may be stated in degrees of arc or in hours. If the body is east of the meridian of the observer, this angle measures the number of hours to elapse before the observed body will be upon the meridian, and if the body is west of the meridian, the angle indicates the number of hours since the body was upon the meridian.

For example, if the angle is 45° and the body is east of the meridian, it will be three hours before it reaches that position.

The angle at the zenith is equal to the azimuth or bearing of the observed body measured from the north point around by east. if the body is east of the meridian, and measured from the north point around by west, if the body is west of the meridian. Fig. 2.

This is then the full description of the Astronomical Triangle, in which all of its points, angles and sides are significant to the navigator, excepting only for ordinary purposes the position angle at the sun or star. Moreover it is the only spherical triangle with which the navigator has to deal, excepting the one case where for purposes of the solution of this triangle, an arc of a great circle is dropped through the observed body at right angle to the meridian. The point of its intersection with the meridian may be denoted by "M," the line itself "s. m." It will be referred to later. Fig. 3.

When the body observed is nearing the meridian, the Astronomical Triangle is very much elongated, and reaches its limit in the straight line, all three of its points being in line with each other,—this occurring when the body is on the meridian. In this instance, the true altitude of the body, taken in connection with the declination fixes the latitude. Under the circumstances of the observation by which the highest point attained by the sun is noted, there is no need for a memorandum of the time, and therefore no record of it for the solution of the triangle.

In those cases where spherical trigonometry is necessary, the more usual problem is the finding of an angle when the three sides are given.

If the angle at Z is worked out, it will be for the purpose of comparing the true bearing of the body observed with the bearing as given by the ship's compass. The difference between these two results, when the compass bearing has been corrected for variation, gives the deviation of the compass on that course on which the ship is directed. The deviation of the compass is constantly liable to change and the information with respect to this probable change is, of course, valuable.

The angle more usually worked out is that at the pole, and the result is the hour angle of the observed body. The most common use of this solution is in obtaining the longitude from a morning sight of the sun, or an afternoon sight.

In this case, although we have said that the three sides were given or known, the fact is that the co-latitude is usually only approximately known, being determined by dead reckoning. The length of this side, of course, affects the result. It is possible and indeed useful to assign values, perhaps 20 minutes more and 20 minutes less, to the assumed latitude and work the problem out three times. It will then be found, that given the latitude in each problem, and the longitude as derived from the solution, three different points may be plotted on the chart, and these three points should always be in a straight line. If they are not so, it indicates an error in the solution of one of the problems.

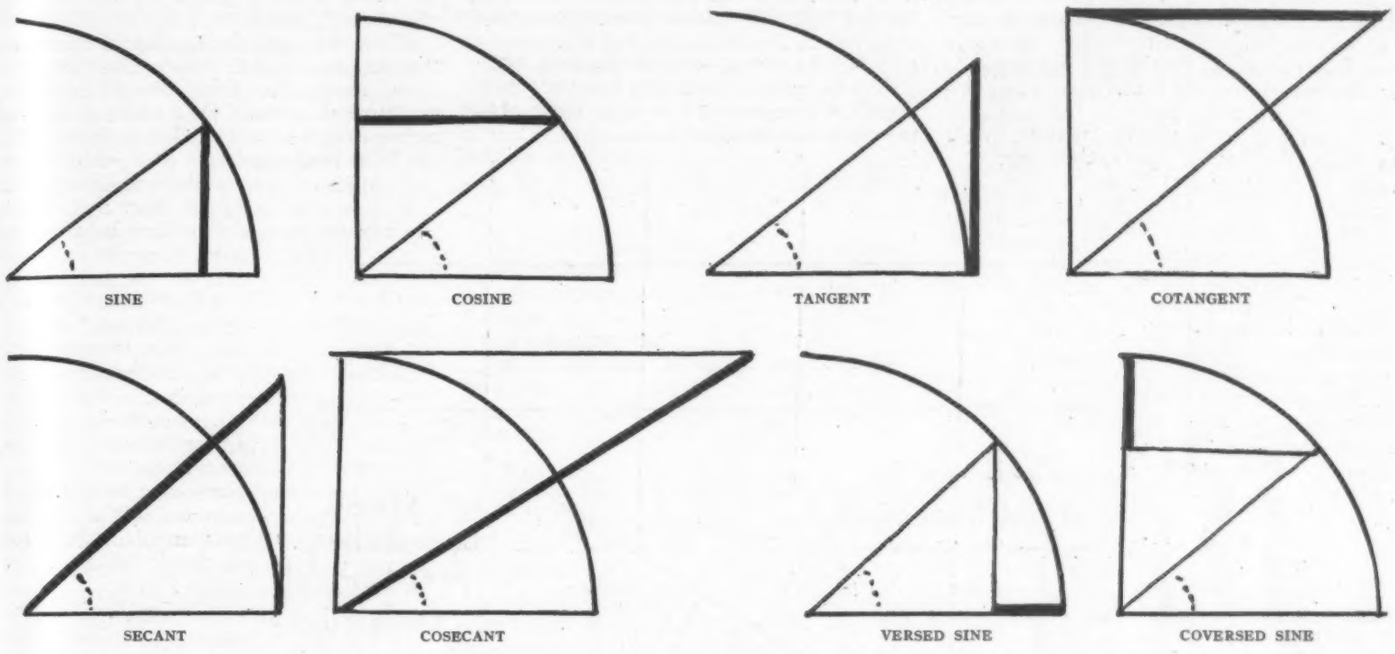
These lines also will have a definite direction. In the northern hemisphere, on the prime vertical, morning and evening they will be north and south. South of the prime vertical, in the morning they will slope in a general northeast and southwest direction. As noon approaches they will assume a more easterly and westerly direction and in the afternoon become increasingly northwest and southeast.

If the sun is sufficiently far north to be observed north of the prime vertical, the direction of the lines will be reversed.

The fact is that these lines are at right angles to the direction of the sun and it may be seen, therefore, why their direction should change as above indicated.

These lines take their name from Captain Sumner, whose discovery of the fact that the points lay in a straight line is detailed in Bowditch, in his chapter on the Sumner line.

Although this line is spoken of as a straight line, it is actually a small portion of the arc of a great circle, joining those points upon the earth's surface at which the altitude of



N. B. ONE-HALF OF THE VERSED SINE IS KNOWN AS THE "HAVERSINE," I. E. HALF VERSED SINE

the sun is equal. These points lie equally distant from that point on the surface of the earth where the sun is at the zenith.

As the altitude of the sun at the time of observation is not great, this circle is always thousands of miles in circumference and the arc corresponding to a degree of such a circle is, for practical purposes, indistinguishable from its cord, or a line drawn tangent to its middle point, the three merging together.

There are only three problems which the navigator is ordinarily called upon to work, other than those involving simple arithmetic. They are as follows: First, to find the longitude from a single sight of sun or star. This problem is slightly varied when the sun is observed at its rising or setting. It is also varied, but not materially, when two stars are sighted. Second, the so-called Ø′ Ø″ sight of sun or star for latitude, which is sometimes called the ex-meridian sight for latitude; and Third, the alt-azimuth problem, to obtain the true bearing of the observed body.

All of these problems are easily worked according to a prescribed formula and demand no knowledge by the navigator as to the derivation of the formula or the significance of the detail of the process. They do demand, however, an ability on the part of the navigator to use the logarithmic tables respecting angles.

Referring again to the astronomical triangle, the problems for longitude require the solution of the triangle to obtain the value of the angle at P, i. e. the hour angle of the observed body, and this result may he stated either in hours or in degrees of arc. Each fifteen degrees of arc equal one hour of time, and in like manner, fifteen minutes or fifteen seconds of arc equal respectively one minute or one second of time.

The alt-azimuth problem is to obtain the value of the angle at Z,—the zenith, to obtain the azimuth of the observed body.

In both these cases the three sides of the triangle are known (the co-latitude only approximately) and the one angle is to be found.

The error due to possible small error of latitude is corrected a few hours later by the noon observation for latitude, and the necessary revision of the earlier problem can then be made.

It will be obvious that the sun or star should appear as nearly east or west as may be practicable, in order to diminish the error due to a slight uncertainty of the exact latitude, which will then have the smallest disturbing effect on the accurate solution of the problem.

Even prior to the noon observation for latitude, the working out of the longitude problem with at least two assumed values of latitude and the plotting on the chart of the line between the two positions resulting from each solution, will show the ship to be somewhere on that line.

This same result can be obtained by working the longitude but once and at the same time the alt-azimuth problem and drawing through the position as plotted on the chart a line at right angles to the true bearing found by the last problem. It may be noted that his second problem does not require that the bearing should have been observed at the time of taking the observation for the altitude of the observed body. The observation of compass bearing is only useful for comparison with what is found by the problem to be the true bearing.

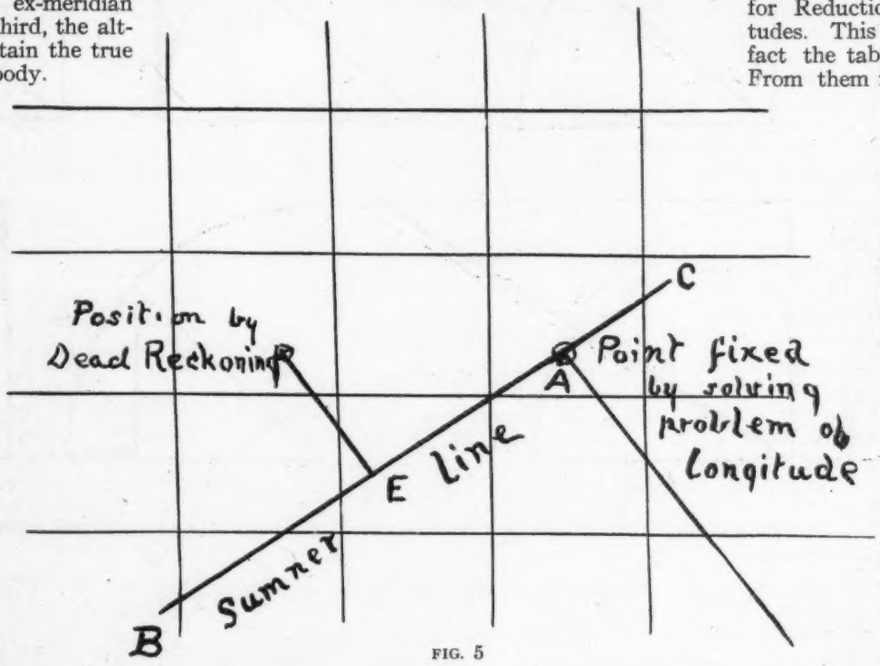


FIG. 5

Instead of working the alt-azimuth problem, tables showing the true bearing of the sun may be consulted, entering them with the ascertained hour angle, the assumed latitude and the declination of the sun or star.

There are several such tables,—Burdwood for one, and Hydrographic Office Nos. 70 and 120, published by the United States Government.

These tables are constructed by the use of equations applied to the Astronomical Triangle, to obtain the angle at Z when the two sides and the angle at P are known. They amount to no more than a solution of the various values of the alt-azimuth problem and a tabular compilation of the answers. The same result is arrived at by the navigator in solving the triangle with three sides given, instead of solving it with two sides and an included angle.

The fixing on the chart of the position as shown by the problem consists merely in finding the point at which the assumed latitude is crossed by the longitude ascertained by the solution of the problem.

Aside from these two problems, which so far as trigonometry is concerned are identical i. e., the finding of an angle when three sides are given, there remains only the Ø′ Ø″ sight for latitude. This is resorted to when for some reason the usual noon sight for latitude has not been made. It is available for three hours before noon and three hours after noon,—provided the true bearing of the sun is not greater than 45° east or west of the south point.

When the sight for latitude is not more than 45 minutes of time before or after noon, it is possible to work out the latitude without using the Ø′ Ø″ problem. Instead resort may be had to Townson's Tables for Reduction of Ex-meridian Altitudes. This sounds formidable but in fact the tables are short and simple. From them is found, to be added to the observed altitude and to the declination, a few minutes and seconds of arc in each case, which reduce the observation to the meridian. Where the observation is within fifteen minutes of noon, neither of these corrections ever exceed fifteen minutes of arc. The problem is always one of simple addition. See again Fig. 3.

As shown on the diagram, the Ø′ Ø″ problem involves the dropping of a perpendicular from the observed body to the side of the triangle which joins the zenith and the pole, or to the prolongation of this side from the pole toward the celestial equator. This results, of course, in two right-angle triangles of which two sides and two angles of the astronomical triangle are a part.

Ø′ is the arc included between the foot of the perpendicular and the zenith, and Ø″ is the arc between the foot of the perpendicular and the celestial equator. Their difference as shown in the diagram (and at other times their sum, i. e. when the perpendicular falls upon the prolongation of the side between the zenith and the pole) equals the declination of the zenith, and this is equivalent to the latitude of the observer.

In the solution of these two right angle triangles, for the purpose of obtaining the values of Ø′ Ø″, two equations from spherical trigonometry are used.

Before stating the equations used in solving these triangles, it may be proper to say that the triangles are assumed to be

upon the surface of a sphere and that their sides are all arcs of great circles. In other words, circles whose planes pass through the center of the sphere. These triangles, of course, have three sides and three angles each but these six parts are all of them measured directly in degrees, minutes and seconds of arc.

It has been found more convenient to deal with these triangles by certain dimensions which vary with the size of the arc and are known as functions of it. An arc is as accurately described by any one of these functions as it is in degrees.

Without wearying the reader, the accompanying diagrams may suggest sufficiently, for the purpose of this article, what these functions are. In each case the heavy line is the function named and the angle of the arc of which it is a function is dotted. The function in each case is at right angles to the radius where the diagram seems to indicate a right angle and the lines apparently tangent to the circle are so in fact.

HERE TAKE SEPARATE SHEET OF DIAGRAMS

It will be readily seen that considering an arc not greater than 90°, the sine, tangent and secant grow larger with the increased size of the arc, and the co-sine, co-tangent and co-secant diminish. Also that deducting the arc from 90° we obtain an angle and its arc which would have the same length of functions, but in which the sine, tangent and secant of the first arc would be the co-sine, co-tangent and co-secant of the second arc.

These functions have a variety of interesting relations with each other. For example, the radius of the circle is a mean proportional between the co-sine and the secant. This can be expressed as co-sine =1÷secant, or secant =1÷co-sine. The Practical Astronomy of Loomis gives thirty-seven of such alternative values.

In any spherical triangle, when three sides are given, any one of the angles can be found as follows: viz.:

The co-sine of one-half the angle sought is equal to the square root of the sine of one-half the sum of the three sides, into the sine of one-half of this sum minus the side opposite the angle, divided by the rectangle of the sines of the adjacent sides.

This rule when stated in the form of an equation and for the general triangle, in which A, B, and C are the three angles and a, b, and c are the sides opposite the several angles, and S=a+b+c, becomes;

$$\text{Cos } \tfrac{1}{2} A = \sqrt{\frac{\sin \tfrac{1}{2} S \sin (\tfrac{1}{2} S\text{-}a)}{\sin b \sin c}}$$

This is the equation used in finding the value of the angle at Z in the astronomical triangles in the alt-azimuth problem, though for convenience in computing certain equivalent values are substituted.

The transformed equation with changed lettering, in which

Z =azimuth of the observed body
pd =polar distance of observed body
h =the altitude of observed body
L =Latitude of the ship
Sum=Sum of the three sides,

reads as follows:

$$\text{Cos } \tfrac{1}{2} Z = \sqrt{\cos \tfrac{1}{2} \text{Sum} \cos (\tfrac{1}{2}\text{Sum}—\text{pd}) \sec L \operatorname{sech}}$$

and in its logarithmic form the Alt. Az. equation is

$$\text{Log cos } \tfrac{1}{4} Z = \log \cos \tfrac{1}{2} S + \log \cos (\tfrac{1}{2}S— \text{pd}) + \log \sec L + \log \sec h.$$

The angle so found is half the angle sought and by doubling it we have the true bearing of the body from north around by east or west toward the south point.

The first mentioned general equation giving the value of cos ½ A as per the rule above given, and in which A is any angle of the triangle, can, by substitution in its terms, take the form;

$$\sin \tfrac{1}{2} A = \sqrt{\frac{\sin (\tfrac{1}{2} S—b) \sin (\tfrac{1}{2} S—c)}{\sin b \sin c—}}$$

This form of the equation is convenient in finding the angle at P in the astronomical triangle for Longitude, though as before, for convenience in computing certain equivalent values are substituted.

The transformed equation with changed lettering as above, and in which the letters have the meaning above assigned, reads as follows:

$$\sin \tfrac{1}{2} P = \sqrt{\cos \tfrac{1}{2} \text{Sum} \sin (\tfrac{1}{2} \text{Sum}—h) \sec L \operatorname{cosec} pd}$$

And in its logarithmic form, the Longitude problem is-

$$\log \sin \tfrac{1}{2} P = \tfrac{1}{2} (\log \cos \tfrac{1}{2} \text{Sum} + \log \sin (\tfrac{1}{2} \text{Sum}—h) + \log \sec L + \log \operatorname{cosec} pd)$$

In the Ø′ Ø″ sight for latitude, the two equations derived from the rules for solving spherical right angle triangles are:

$$\tan Ø''—\tan d \sec P$$

and

$$\cos Ø'—\sin Ø'' \sin \text{Alt-cosed } d$$

d =declination
P =hour angle
Alt=Altitude of the body

and in the logarithmic form,

$$\log \tan Ø''=\log \tan d+ \log \sec P$$
$$\log \cos Ø'=\log \sin O''+ \log \sin \text{alt}+ \log \operatorname{cosec} d \quad L=Ø''+Ø'$$

That is to say, the latitude of the observer equals the sum or difference of the arcs Ø″ and Ø′ as found from the two last mentioned equations.

Within recent years the practice of navigation has been somewhat modified in two respects.

By reference to the diagrams of the functions of an arc, already given, and assuming the radius to be unity, it will be seen that the versed sine is equal to the radius less the co-sine of the arc. Put in the form of an equation,

Versed sine = 1 — Cos.

and therefore half the versed sine or

$$\text{Haversine} = \frac{1 — \text{cosine}}{2}$$

It can be readily understood that where convenience in calculation requires it, the haversine can be substituted in various equations. Tables of haversine and Log. haversines are now to be had for use in the solving of these transformed equations.

The more important modification is with regard to the longitude sights and the Sumner line.

Referring again to the problem above stated, it will be seen that in finding the position of the ship by the Sumner line the latitude by dead reckoning is assumed and the corresponding longitude found by the problem. This point is plotted on the chart and the Sumner line drawn through it.

This plotted point might be assumed to be the most probable position of the ship but in fact it is not.

Referring to Figure 5, A may be deemed to be the point ascertained by the old method of working the Sumner line. It will be noticed that it has the same latitude at the point indicated as ascertained by dead reckoning. The working of the problem has given us the longitude as at A, and B–C is the resulting Sumner line. It will be seen that the longitude of the dead reckoning has been entirely ignored in the procedure, whereas it has a distinct value of its own. Although the ship is certainly somewhere upon the Sumner line, an inspection of the diagram will indicate that, by dropping a perpendicular to the line from the dead reckoning point, E is a more probable point of position for the ship than A. It makes due allowance for the effect which should be given to the value of the dead reckoning longitude, and it does not unduly emphasize the value to be given to the dead reckoning latitude.

In practice, while the Astronomical Triangle is still the only triangle which is dealt with, the problem is no longer one of three sides to obtain an angle but of two sides and an angle to find the co-altitude of the celestial body, assuming for the purpose of the problem that the dead reckoning position is correct, and so to find, the altitude, together with the azimuth. The true bearing of the sun or star is then laid off from the dead reckoning point and the difference between the observed altitude and the calculated altitude is laid off on this line or upon the prolongation of it, on the opposite side of the dead reckoning point, as being a point upon the Sumner line, which line, however is not drawn.

In the illustration Fig. 5 the difference between the observed and the calculated altitude is the line between D R and E.

It seems unnecessary in the present writing to enlarge upon this variation of the longitude problem of navigation. The intent of the writer has been only to emphasize and to illustrate the fact that so far as navigation depends upon observation of the heavenly bodies, it centers around a single astronomical triangle and the solution of its parts, and to indicate in a general way the connnection between the mathematical basis of such solution and the rules laid down for working out the sights obtained by the navigator.

Of Interest to the Skipper

Duesenberg Buys Fiat Plant

ANNOUNCEMENT is made that the Duesenberg Motors Corporation has purchased the factory, factory equipment and property of the Fiat Motor Car Company at Poughkeepsie, N. Y. This has been done in order to increase production on the big contract which the Duesenberg Motors Corporation is now working on for the United States Government.

In addition to the purchase of the big Fiat plant, the present large, model factory of the Duesenberg Motors Corporation at Elizabeth, N. J. is to be immediately doubled, with a strong possibility of an additional increase in floor space after that.

It is understood that the Fiat Company has anticipated material conditions and labor conditions and have completed the machine work and much of the assembling of their total output for 1918. A small portion of the Poughkeepsie plant is to be used by the Fiat Company for completing the assembling of their 1918 cars and also to act as a service station and repair parts depot. With this big addition to the production ability of their organization, the Duesenberg Motors Corporation can go ahead of their delivery dates in turning over to the Government completed motors so urgently needed in connection with the Aviation Program.

The Duesenberg Motors Corporation, manufacturers of airplane, automobile and marine engines, are admittedly one of the most highly specialized organizations in the country. Their knowledge of both motors, and motor manufacturing is such that it is only logical they should become a big cog in the massive wheel of American Airplane Production. That this organization has withdrawn all its regular motors from the market and turned its entire resources over to producing motors for the Government, is but additional evidence of how our big commercial institutions are bearing the burden and throwing their every effort back of the Government to bring this war to a quick and successful conclusion.

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Columbian Bronze Corporation

THE Columbian Bronze Corporation in connection with the recent opening of a New York office which will be the Executive Offices of the Corporation, announce that Mr. S. D. Levings, formerly Eastern District Representative of the Automobile Equipment Department of the Westinghouse Electric & Manufacturing Company, has been engaged to act as Sales Manager of the Bronze Castings Department. Mr. Levings will have his headquarters hereafter at the new General Offices in the Hudson Terminal Building.

The Corporation also announces that they have secured the services of Mr. Leslie Huxtable, formerly of the Sales Force of the Van Blerck Motor Company. Mr. Huxtable's services will be used in connection with the Order & Purchase Department, and he also will be located at the Executive Offices at No. 50 Church Street, New York City.

Gordon Reversible Propellers

C. N. HESS, 1276 Melbourne Rd., East Cleveland, has just purchased the land, buildings, machinery, patterns and patents of the Gordon Propeller Company. A new organization will be formed to take up the manufacture of Gordon Reversible Propellers.

Albany Boat Corporation

AT the Annual Meeting of the Albany Boat Corporation of Watervliet, New York, designers and builders of the well-known Standardized Albany Runabouts, held on January 22nd, the following officers were elected:

President.....Mr. L. L. Tripp
Vice-President.....Mr. G. C. Hisgen
Secretary-Treasurer Mr. A. T. Phelps

Shark Skins for Leather

THE U. S. Bureau of Fisheries' experiments with skins of sharks and other fishes for producing leather has resulted in some forty tanners giving such a trial, and several are now in the market for raw hides of sharks and porpoises. The fisheries bureau has issued a new circular on this subject with illustrations showing where the cuts should be made in taking off the skin and giving an outline of this work. Fishermen are urged to furnish tanners with supplies, and the names of such, together with the prices they are willing to pay, can be had from the Bureau.

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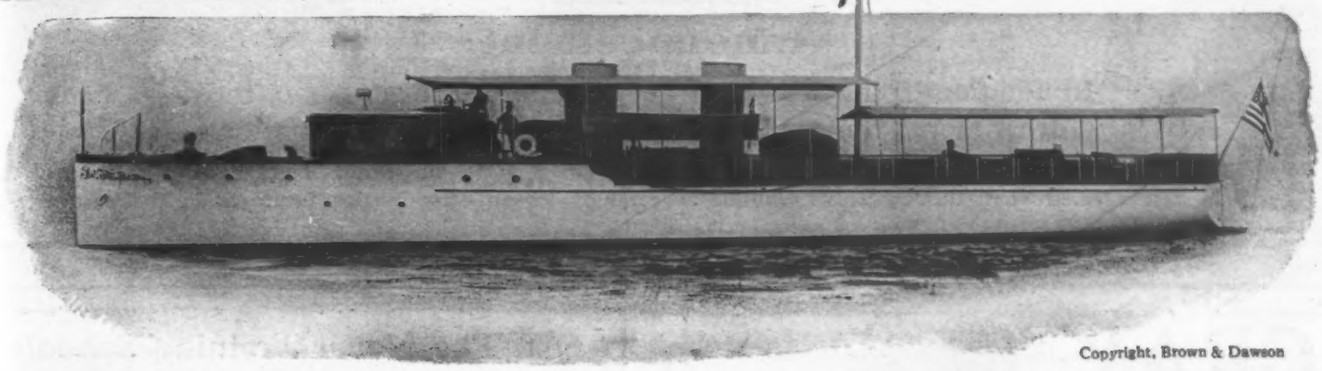

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Help, oh Yachtsmen, Help America

THE Allies cannot solve their food problem unaided. Unless their food problems are solved they cannot win the war. In essence this is the message from across the water to America. It has come by official communication, it has come by cable, it has come on the speed wings of wireless. It is the most imperative S. O. S. call, involving the fate of the greatest number of human beings, ever sent out.

It is not, however, a message of lost hope. It does not mean the Allies are any less indomitable, that there is any slackening of resolution on their part. It simply means that, with their deepening appreciation of how staunchly the people of this country stand behind the entry of the United States into full partnership with them in their war for human Liberty, the Allies have taken us completely into their confidence. In their frank cry for food they have shown their absolute trust that this country can and will meet their needs. If they had doubted that, they would have dissimulated their want for strategic reasons lest full knowledge of the facts be an aid and comfort to Germany. But feeling the response of the United States will at once offset any benefit to Germany from the revelation, the Allies have not dissimulated. They have delegated trustfully the supplying of food as this country's prime war service.

Lord Rhondda, British Food Controller, speaking recently for England, France and Italy, said unless we gave them 75,000,000 bushels of wheat they might be unable to hold out; Food Administrator Hoover says the Allies look to us for 70,000,000 pounds of beef a month as compared with the pre-war average of 1,000,000, and for 150,000,000 pounds monthly of pork products as compared with a third of that before the war; and President Wilson recently issued an appeal for augmented food production in this year of what he termed the "culminating crisis of the struggle."

But all these appeals and all the war measures so far taken would be futile unless the people unite in making the approaching Third Liberty Loan the greatest single financial act of any nation in world history—to provide a mountain of money so that the government's shipping plans to transport food to the Allies can be carried through, so that further huge loans can be extended to the Allies to finance their food purchases in this country and so that every emergency of the impending war crisis can be met without stint as quickly as it arises. Food, transportation and troop movements are war acts that must be conceived, organized and carried out with a rush, and it is only the avalanche of money supplied by Liberty Loans poured out by the enthusiasm of the people that can make them speedy enough to be of service.

If the Third Liberty Loan measures up to the need of the hour, the war will be won before real food privations, food rationing cards and enforced readjustment of industries so as to place emphasis on the more important, shall become necessary in this country as they have abroad.

Camouflaging Our Ships

(Concluded from page 131)

the visibility to extremes. The Mackay system consists in painting the vessel in a pattern of oblong dots, while the Herzog method makes use of a diamond design. The color scheme of the Brush system is black and white, but the Toch arrangement is painted in four vibratory colors in the sweeping lines of S-shaped waves.

The art of camouflage is replete with much variety and one cruiser recently in port was disguised by decorating the sides and funnels to make it appear as a different kind of craft. With the ideas of creating low-visibility the bow was painted for some thirty feet in a curving band of gray, the rest of the hull to within thirty feet of the stern, being painted black, and finished with the curve of gray paint. To break up the form of the turrets, black vertical bands were used, and the funnels disguised by wave-shaped bands of black paint over a foundation coat of gray. The appearance of this ship when steaming away from the observer was a predominant gray, but when passing and when viewed broadside, the color scheme fades and vanishes, and in dim light the outlines of the cruiser are practically invisible.

A system now in use by one of our Allies is held in high regard by camoufleurs, although it merely consists in painting a heavy band on the bows to give the illusion that the ship is making greater speed than is really the case. By this simple method, the calculations of the enemy are upset, because to make a perfect hit with a torpedo, it is necessary to estimate, not only the actual speed of the vessel to be hit, but the exact direction of her course as well.

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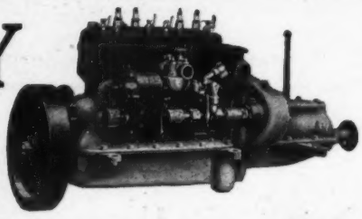

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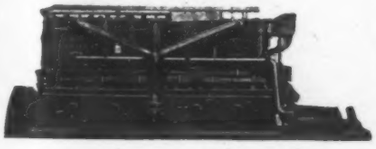

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Bayside Y. C.

(Concluded from page 125)

corporation was formed to purchase a water front plot and an old barn which was reconstructed to make a comfortable club house. As the membership grew additional room was added to the club home and when all hands were looking forward to the season of 1908 an incendiary applied the torch and the club was burned together with sixteen boats. But members rose to the occasion and within two months a new and better building had been completed, which included the addition of a large billiard room and eight bed rooms for the use of members who wish to use the club over the week-end. As social life is a strong feature of the Bayside Yacht Club, a hurricane deck was later added to accommodate the dancers, and every Saturday evening during the yachting season informal dances are held, and at the July 4th celebration of last year over three hundred members and guests were in attendance.

To keep the members posted a little monthly magazine known as The Log Book has been published by the Club, and today the active membership totals 300 with a Junior membership of 38. Some forty per cent are yacht owners, and that the Club is much more than a local one is well evidenced in the fact that members live in Flushing, Jamaica, Queens, Great Neck, Douglaston, Brooklyn, Manhasset, College Point, Whitestone, New York City and Montclair, N. J.

In the club fleet are schooners, sloops, yawls, cat-boats and the Bayside burgee floats on many of the most representative motor-yachts on the Sound. The Club has always endeavored to promote interesting races and in the early days started with Swampscott dories, the 18-foot Torpedo class, the famous Butterfly-class which were sailed by lady skippers during Larchmont and Atlantic Yacht Club race-week, followed by the B. C. sloops, the Bee-class, the Birds and the Stars. The regatta schedule was not fully carried out last season owing to the many members entering the service, but there was a strong competition among the three classes, and in lieu of prizes the winners gave some $500 to the Red Cross.

To promote interest in small sailing craft the well known Bird-class was launched in 1912 from the designs of William Gardner. Seven of these Bayside-birds were ordered by members, Henry Nevins & Son of City Island building them and Ratsey furnishing the sails. The bird-class is a splendid and easily handled craft being 28 ft. 6 in. over-all; 18 ft. on the water-line, with 7 ft. beam and 2 ft. 8 in. draft. Three boats of this design were also built for members of the Atlantic Yacht Club, and Commodore Blackton's *Eaglet* is one of them. The Bird-class has furnished some interesting and closely contested races when the Atlantic and Bayside clubs participated as a class at the Race Week of the Larchmont Yacht Club, and again at the Race Week contests of the Atlantic Yacht Club. Many Bayside boats have won out at these regattas and have also won the Sound and Sea trophies.

The good points of the Bird-class resulted in much interest shown in small boat sailing and in 1915 the Star-class was brought out. This design was also the work of William Gardner, and Ike Smith of Port Washington built the hulls and Botjer of City Island made the sails. The Star-boats are slightly smaller than the Bird-class, measuring 22 ft. 7 in. over-all; water-line, 15 ft. 6 in.; draft, 3 ft. 4 in. and with a sail area of 281 square ft. This class is a popular one and a number of the clubs on Long Island and the lower bay own boats of this class.

Optimistic and energetic, The Bayside Yacht Club is not satisfied but is looking forward to still greater prosperity and to the accomplishment of bigger things lying within its field. The love for sailing is the predominating note, and with the very definite ideal of promoting the sport for the sport's sake this clean-cut organization cannot help but grow larger and more influential with the years.

Aids Enlisted Men

(Concluded from page 140)

this course, eighteen have already passed their examinations and have received licenses as second and third mates. By special arrangement with the Government instruction in this course is free.

The Navigation School of the Institute has also many students in its own private classes who are preparing themselves for the service of their country. Among these are many business and professional men most of whom have for years been interested in yachting and water sports of all kinds. They are studying to pass the examinations for master so that they may be well qualified for positions either in the United States Navy or in the Naval Reserve. Among those in this division are also several applicants for aviators' licenses who are learning the uses of the compass and gaining other information.

Captain Robert Huntington, an experienced navigator is the principal of the school and he is assisted by four instructors. The school is open on week days from nine o'clock in the morning to four in the afternoon and from seven to ten o'clock on Monday, Wednesday and Thursday evenings. On certain days practical instruction is also given on the steamship J. Hooker Hamersley.

Good Glue

(Continued from page 141)

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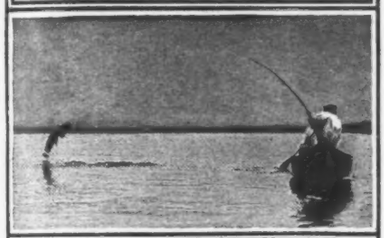

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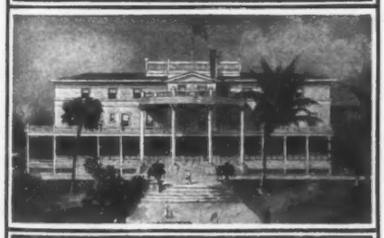

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No. 9 a special Marine Glue for general insulating work and for ammonia pipes in refrigerating plants.

No. 10 is likewise a special grade of Glue especially prepared for greatest adhesive quality and is used in making hollow spars.

In addition to these grades of Black Glue there are two grades of Yellow Marine Glue. No. 1 is known as Extra-quality and is used for deck seams of yachts and passenger steamships. No. 2 is a First-quality yellow glue suited for all classes of merchant vessels.

About 1885 Mr. L. W. Ferdinand of L. W. Ferdinand & Co., of Boston, who was at this time in the ship chandlery and hardware business, first heard of Jeffery's Marine Glue and that Geo. Lawley was using it. For some time they purchased what glue they required from him. Later on, appreciating the value of this material to the yachting and shipping trade they began importing the Marine-glue direct and a little later obtained the sole agency for this country. At this time Geo. Lawley & Son and the Herreshoff Co. were practically the only ship builders using Jeffery's Marine-glue for the average yachtsman and boatman knew nothing about it.

When Ferdinand & Co. closed out their hardware business in 1905 they have devoted their entire time ever since to the sale of Jeffery's glue. Advertising has made the name known wherever boats are used and all who have used this excellent material have increased its sale until it is now stocked and catalogued by practically every yacht, boat and canoe supply house from the Atlantic to the Pacific, and Jeffery's Marine Glue is a household word with every boat and ship owner.

L. W. Ferdinand & Co., 152 Kneeland St., Boston, Mass., publish a booklet entitled Marine Glue—What To Use And How To Use It, which contains full informa ion as to the many special uses for which it is made and the best manner of melting and applying the glue to give long service and lasting satisfaction.

April YACHTING is the Fitting Out Number; a real magazine full of real boat stuff.

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